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PROGRAMME

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Methods and criteria for determining forest restoration potential
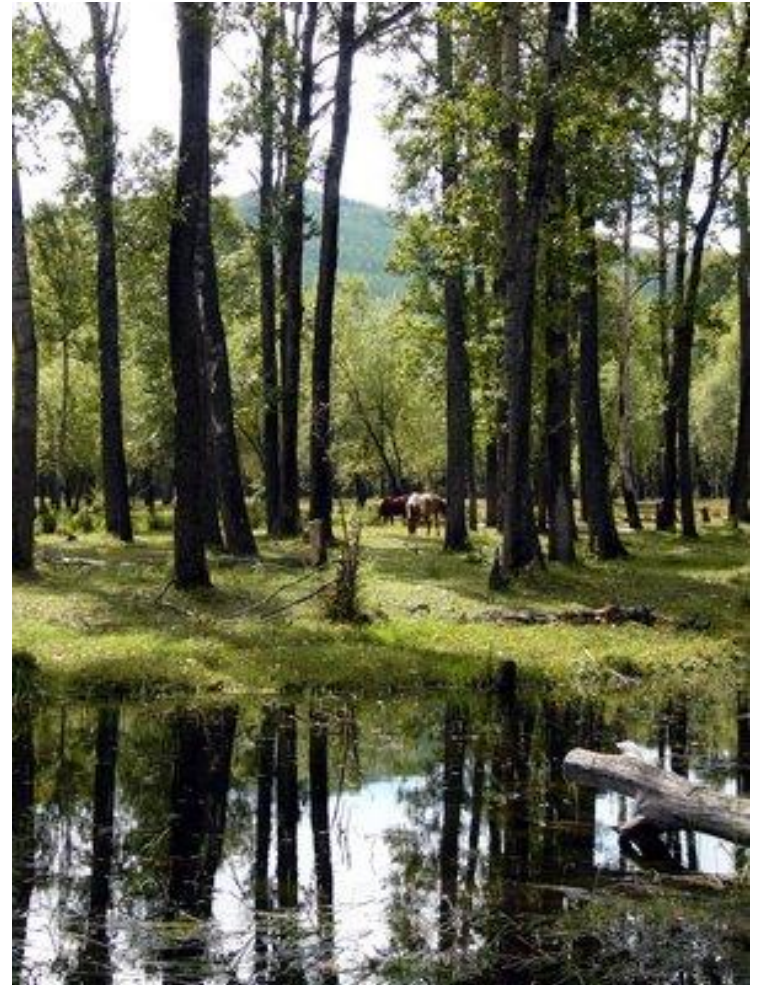
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OVERVIEW

- Definitions

- General issues

- Differences between approaches

- Links to REDD+ and the Cancun Safeguards

- Technical methods and criteria

DEFINITIONS

Reforestation:

Reforestation is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. (*UNFCC, in UN-REDD Glossary*)
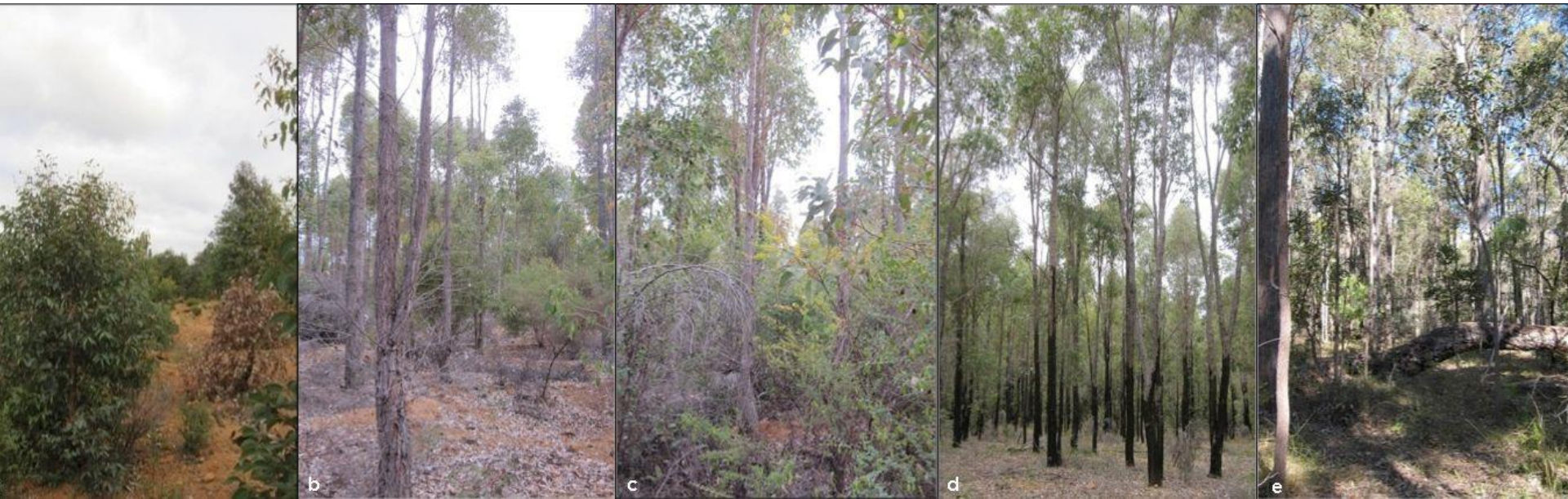
Afforestation:

Afforestation is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources. (*UNFCC, in UN-REDD Glossary*)

DEFINITIONS

What about forest restoration?

Forest landscape restoration is the long-term process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes. *(IUCN/GPFLR, 2014)*

DEFINITIONS

Forest degradation

The term used to describe the condition of a forest that has been reduced below its natural capacity, but not below the 10 percent crown cover threshold hat qualifies as deforestation (*Chiang Mai University, in UN-REDD Glossary*)

DEFINITIONS

- The specific definitions for 'degraded forest' and 'natural forest' in each context have important implications for planning for REDD+
  - E.g. Is there legal definition of degraded forest?
  - What activities can be carried out in degraded forest?
  - Which categories fall under 'natural forest'?
  - What activities can be carried out in 'natural forest'?

DEFINITIONS

- Why is the definition of 'natural forest' important under REDD+? …….REDD+ actions should not result in the conversion of natural forest to planted forest.

Safeguard (e)

"*That actions are consistent with the conservation of natural forests and biological diversity, ensuring that [actions] are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits.*" (Decision 1/CP.16)

Mongolian definitions?

Some relevant categories used in the forest taxation inventory:

Closed forest area (>0.3 stock density)	Natural forest	Natural forest, including naturally regenerated forest
	Shrubs	Woody perennial vegetation with height below forest thresholds
	Forest plantation	Planted or sown forest with crown closure

Open forest area (<0.3 stock density)	Logged area	Strongly degraded forest through unsustainable logging
	Natural regeneration with scattered trees	Naturally regenerated forest with scattered larger trees
	Reforested area	Recently planted or sown forest before crown closure
	Area affected by pests	Strongly degraded forest through pests
	Area damaged by wind or snow	Strongly degraded forest through wind and snow
Non-forest area	All non-forest area within forest land which does not support natural forests and open forests, such as hayfield, pasture land, grassland of mountain, lake, river, marshland, alpine grassland, sand, nursery, etc.	

APPROACHES TO FOREST RESTORATION – GENERAL ISSUES

1. What is the area of analysis for restoration potential?
2. Where can forests potentially grow? (Climate, soils, land use)
3. What is the current extent of forests?
4. Where have forests been lost or degraded? How are these defined?
5. What and where are the constraints on restoration? Where is restoration economically, socially, ecologically feasible?
6. Where are the opportunities for restoration?
7. What are the carbon benefits of restoration?
8. What other benefits and costs are associated with restoration?
9. Who needs to be involved? (Stakeholders, communities, companies?)

DIFFERENCES BETWEEN APPROACHES

- Approaches for restoration can be more top-down or participatory

- Potential may be measured more by technical parameters (climate, soil, species) or by social-political-economic parameters (land-use, feasibility, community preferences)

- How spatial analysis is used in the decision-making process

- Where/how potential carbon benefits are included in the analysis

- Whether or not undertaken from a REDD+ perspective

- Whether potential is classified according to different restoration strategies (e.g. mosaic restoration) or simply high/low potential

LINKS TO REDD+ AND THE CANCUN SAFEGUARDS

- The REDD+ activity **enhancement of forest carbon stocks** covers a group of possible actions:
  - Afforestation
  - Reforestation
  - Forest rehabilitation
  - Assisted natural regeneration
  - Natural regeneration

- Planning for forest restoration as part of REDD+ needs to take REDD+ as starting point.

- The goals of restoration as part of REDD+ may affect the approach used and how areas for the actions are identified

LINKS TO REDD+ & SAFEGUARDS, cont.

- Forest restoration as part of REDD+ offers important multiple benefits, depending on strategy and implementation:
  - Enhanced ecosystem services provision (e.g. improve control of soil erosion)
  - Opportunities for increased/alternative livelihoods (e.g. restoration using economic species)
  - Improve habitat for forest wildlife (including species of conservation and economic importance)
  - Complement/support national forestry priorities/targets (help to achieve other goals, e.g. combating desertification)

LINKS TO REDD+ & SAFEGUARDS, cont.

- There may also be risks associated with forest restoration:
  - Loss of rights to / access by local communities to forest resources, or agricultural/grazing areas
  - Conversion of natural forests or other ecosystems (e.g. natural grasslands or wetlands) to forest plantations, leading to loss of biodiversity
  - Reduction in ecosystem service provision by poorly planned/managed plantations (e.g. soil conservation, pollination)

# TECHNICAL CRITERIA AND METHODS FOR MAPPING RESTORATION POTENTIAL

Example 1: Country level analysis, Paraguay, UN-REDD (2015)

Factors considered in planning for forest restoration as part of REDD+:

- Potential forest coverage
- What has been lost or degraded?
- What can be restored? Using parameter such as:

   - Population density (too high density = less/no potential)
   - Roads and others infrastructures (access)
   - Croplands and other key land uses (excluded)
   - Environmental factors (e.g. seasonal flooding)

Potential forest cover   **Current forest cover (2011)**   **Intensive croplands**   **Mechanised agriculture**
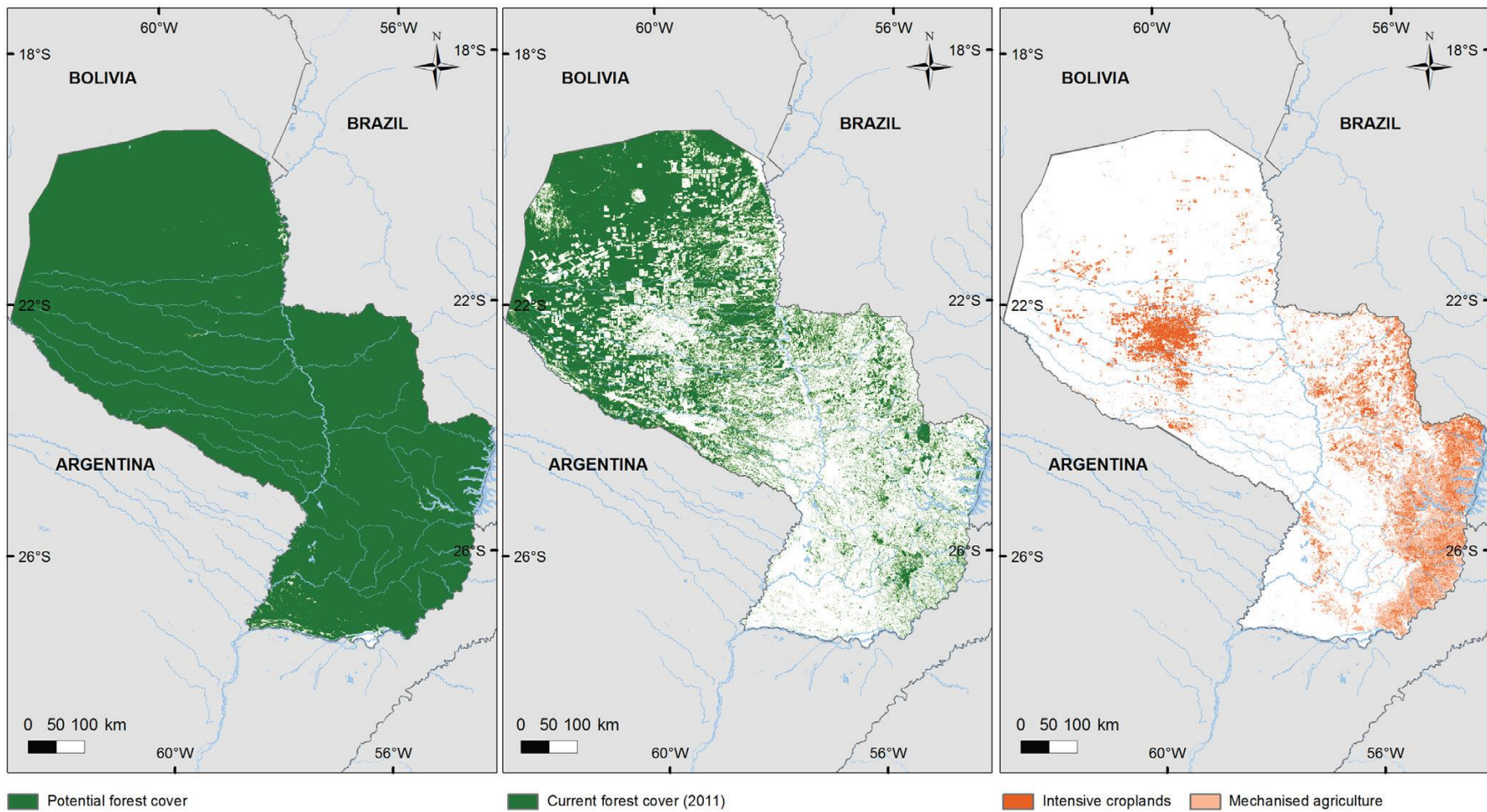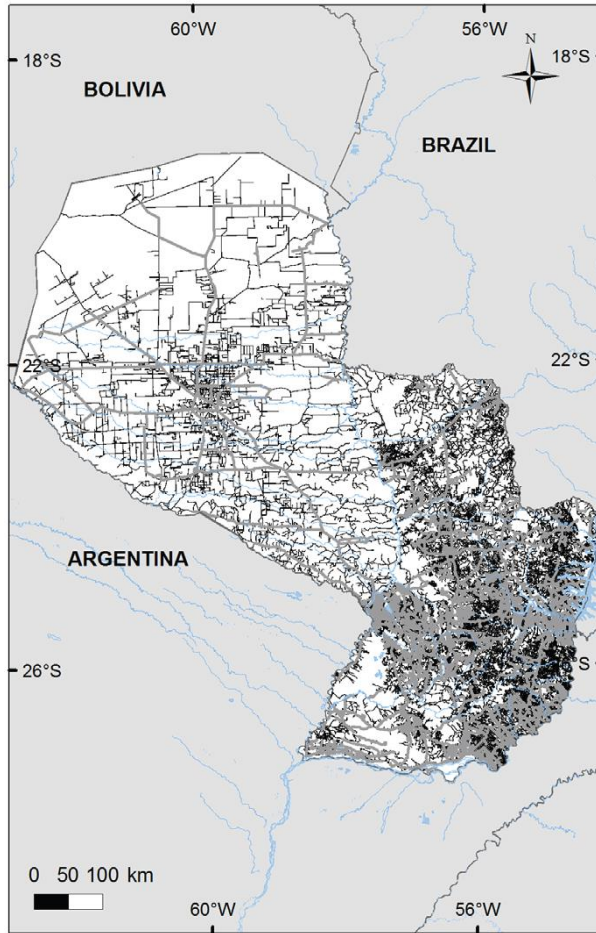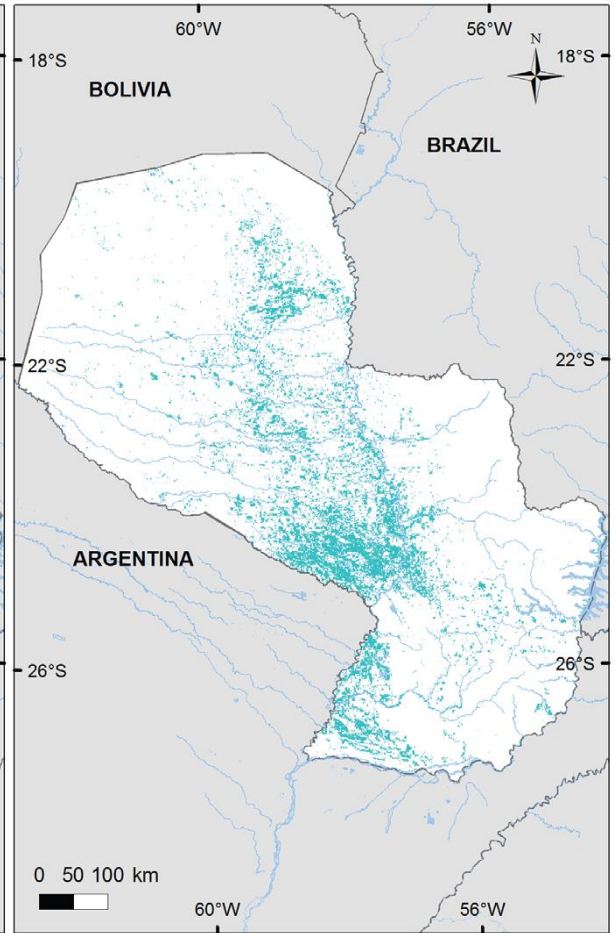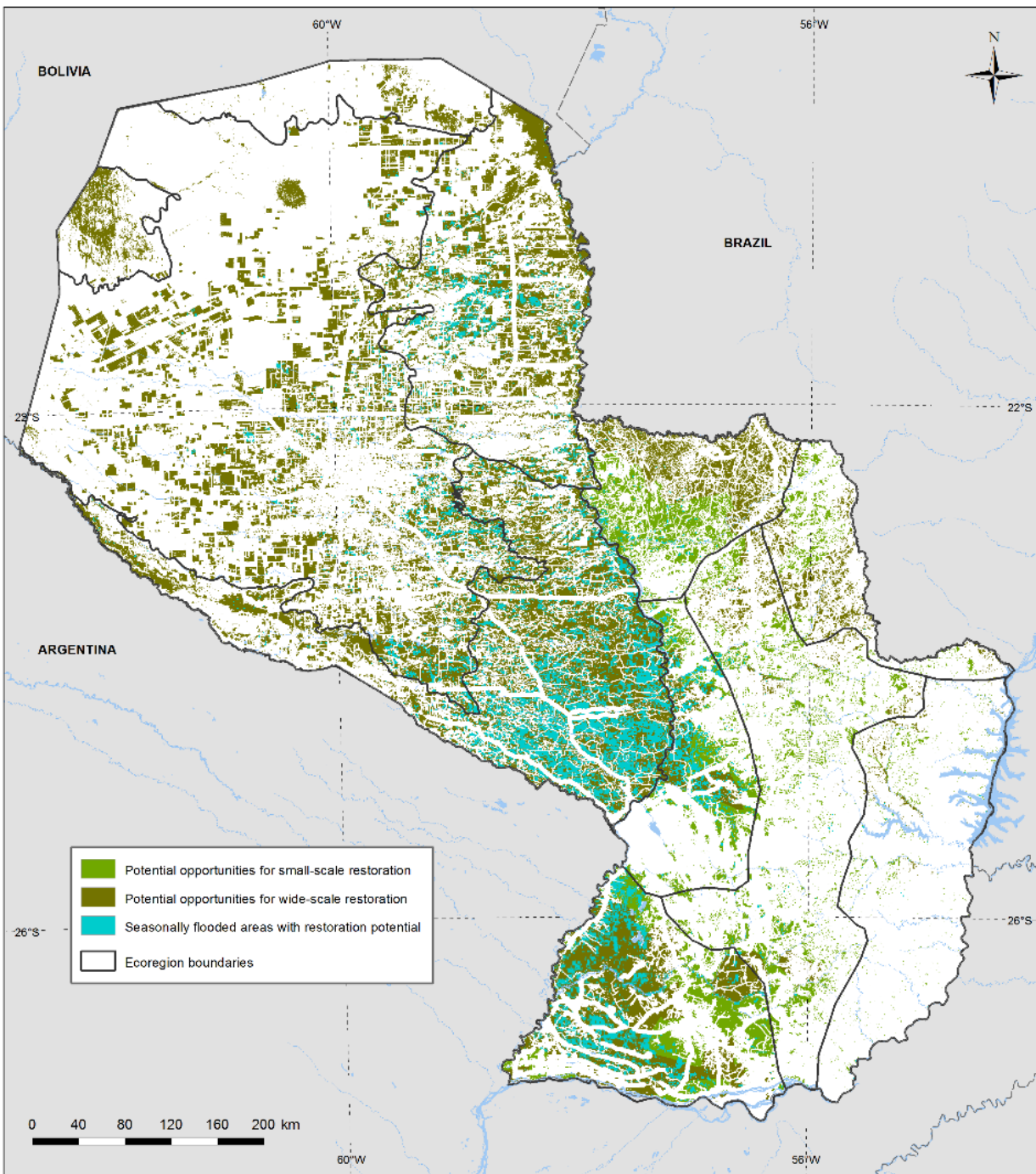
Roads (type 1 - 3; 2km buffer)

Roads (type 4; 500m buffer)

Less than 10 inhabitants per km² - potential for large-scale restoration

Between 10 - 100 inhabitants per km² - potential for small-scale restoration

No restoration potential (>100 inhabitants per km²)
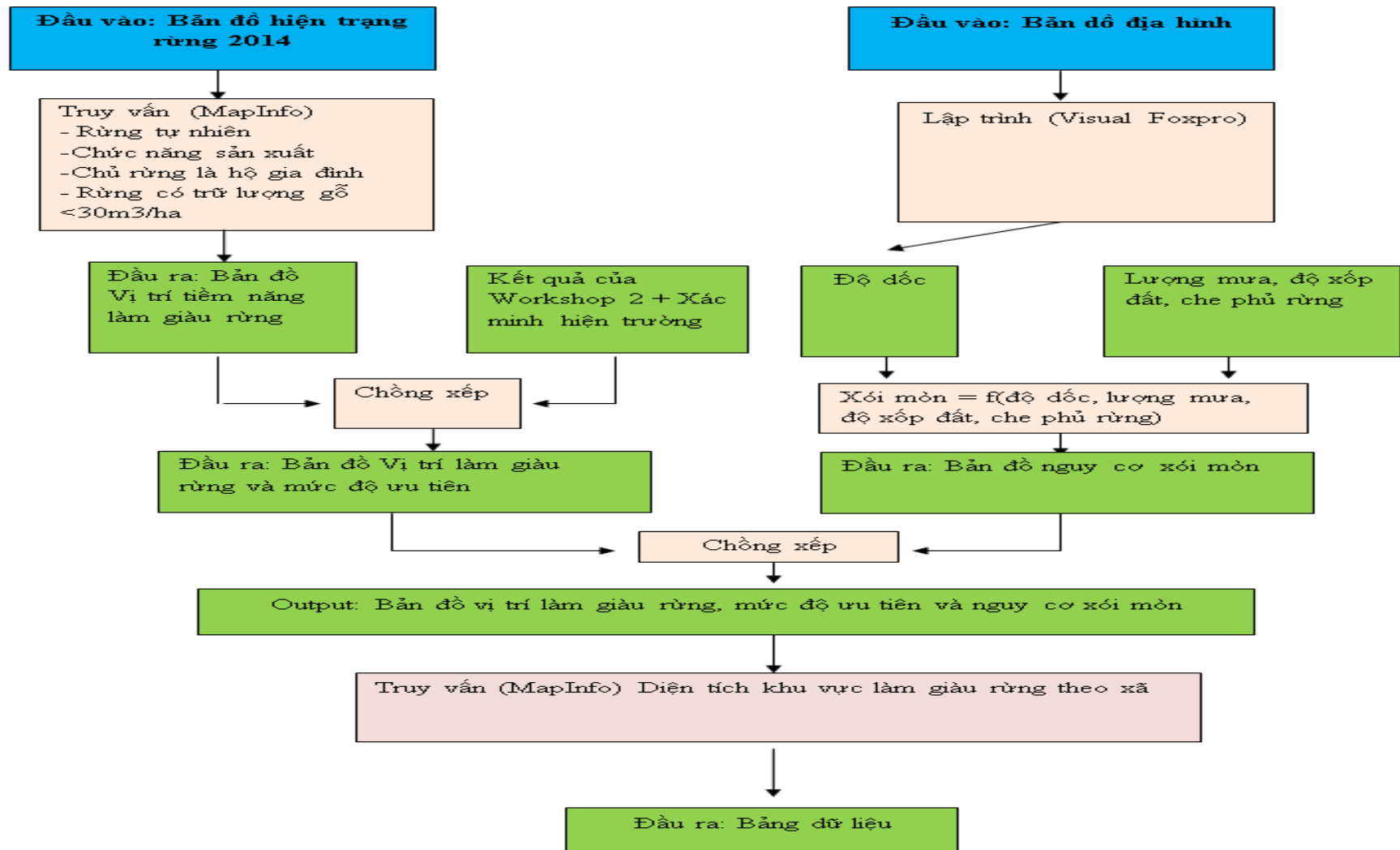
Administrative boundaries

Regularly flooded vegetation

Final analysis, showing potential for restoration in 3 categories:
- Wide-scale
- Mosaic
- Seasonally-flooded areas

Example 2: Workflow for Province-scale and category specific analysis, Ha Tinh Province, Viet Nam (draft 2015)

Elements of the workflow:

- To create map showing potential areas for restoration of degraded household production forests in the province.
- Selected areas based on these criteria:
  - Natural forest
  - Production forest category
  - Forest is under household ownership
  - Forest stocking volume < 30m^3/ha (i.e. degraded)
  - Areas with high soil erosion risk
  - Areas prioritised by workshop participants & verified by field checks

Mapping potential for forest restoration Tov

What factors could we consider?

1. **Potential forest coverage**? What is the original forest extent compared to the current forest extent?

2. What has been **lost or degraded**? How to define what is included in these categories?

3. What **can be restored**? What factors affect the **feasibility**? E.g. population, grazing/livestock, environmental/climate factors, carbon?

4. What areas should be **excluded**? E.g. agricultural/settlement areas? Other natural ecosystems?

5. What **multiple benefits** could be obtained? E.g. water, wildlife. What multiple benefits were mentioned in Tov workshop?

6. What about **stakeholder inputs**? What areas were shown in participatory maps?

Exercise: develop a workflow for mapping forest restoration potential in Tov aimag

- Definitions
- Input layers
- Spatial workflow, showing steps/ processes/tools

Thank you!

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