

Introduction to criteria for planning and spatial workflows

Charlotte Hicks, UNEP-WCMC

September 2016

REDD+ involves 5 'activities' and numerous 'actions' or 'interventions':

Activity	Example interventions
Reducing emissions from deforestation	Eg: reduce conversion pressure through improved land-use planning
Reducing emissions from forest degradation	Eg: provide fuelwood alternatives/efficient cookstoves
Conservation of forest carbon stocks	Eg: consolidating management of existing protected areas
Sustainable management of forest	Eg: reduced impact logging; community forestry
Enhancement of forest carbon stocks	Eg: forest rehabilitation; afforestation

So how to plan where to implement REDD+ and other forest-related activities?

Key questions: Where **can** the activity be undertaken? Where **can't** the activity be undertaken?

Criteria to consider:

- What is the driver/barrier you want to address?
- Is forest management category is relevant? If so, which one should be prioritised?
- Is forest/land condition relevant? E.g. poor/degraded forest, rich forest, deforested areas
- Is forest type relevant? E.g. evergreen, mixed, bamboo, limestone forest



Criteria to consider, cont:

- What about other land uses? E.g. should agricultural areas be excluded? Should planned infrastructure areas be excluded?
- Are there other geophysical aspects to consider? E.g. slope, soil type.
- What about social and environmental benefits? E.g. should biodiversity areas, or poverty areas be prioritised?
- And risks? Are there risks from the intervention that should be considered? E.g. risks to communities? Risks from fires, steep slopes?
- What about regulations? Are there any criteria set out in regulations?



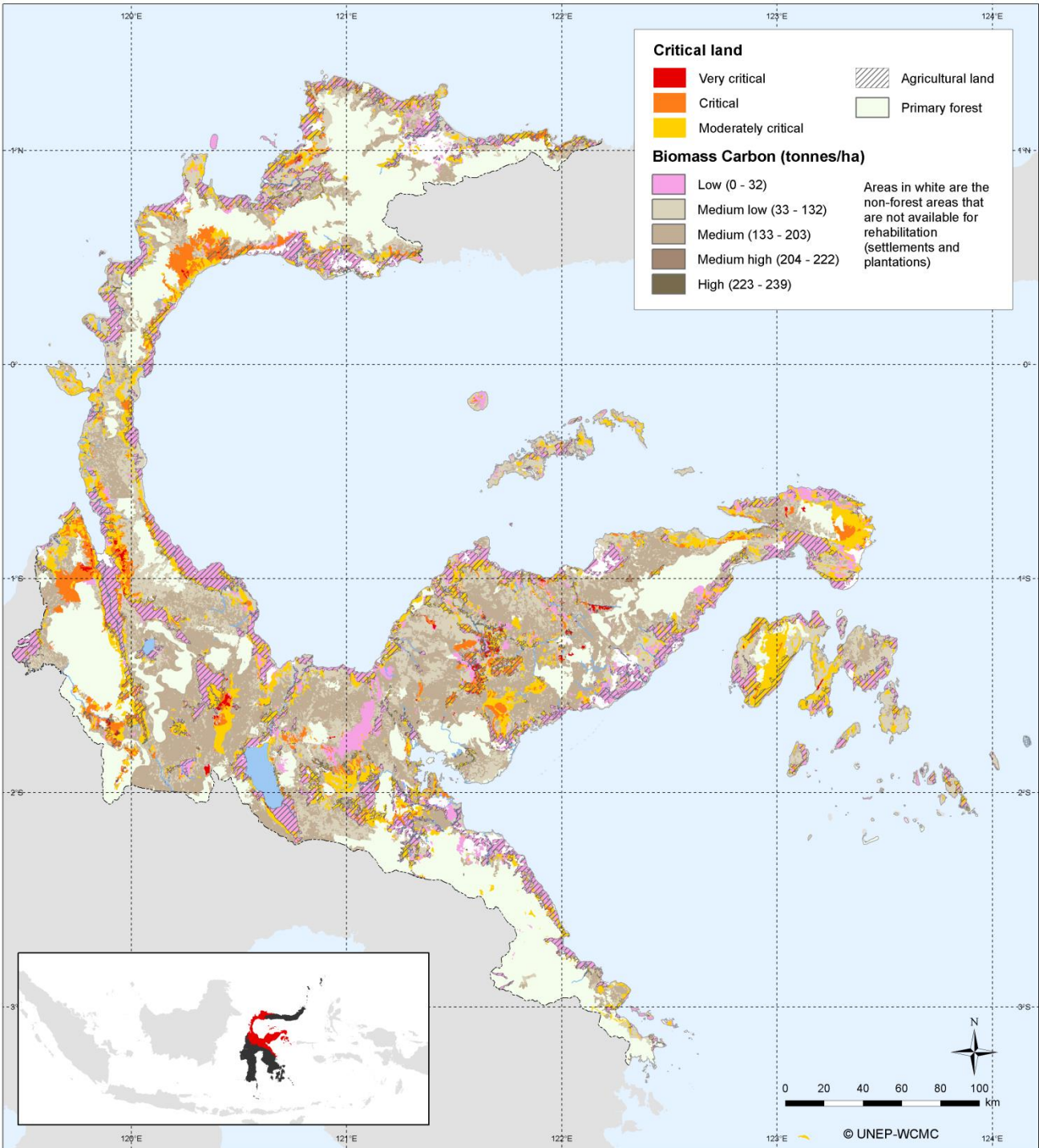
What is a workflow?

A workflow defines the **flow of work** in order to carry out a task or piece of work.

A **spatial workflow** helps you to think about how you are going to undertake a piece of spatial analysis:

- the **spatial logic** you will use to answer a question
- the **input layers / data** needed
- the technical **GIS processes / tools**
- and the **sequence or order of steps**

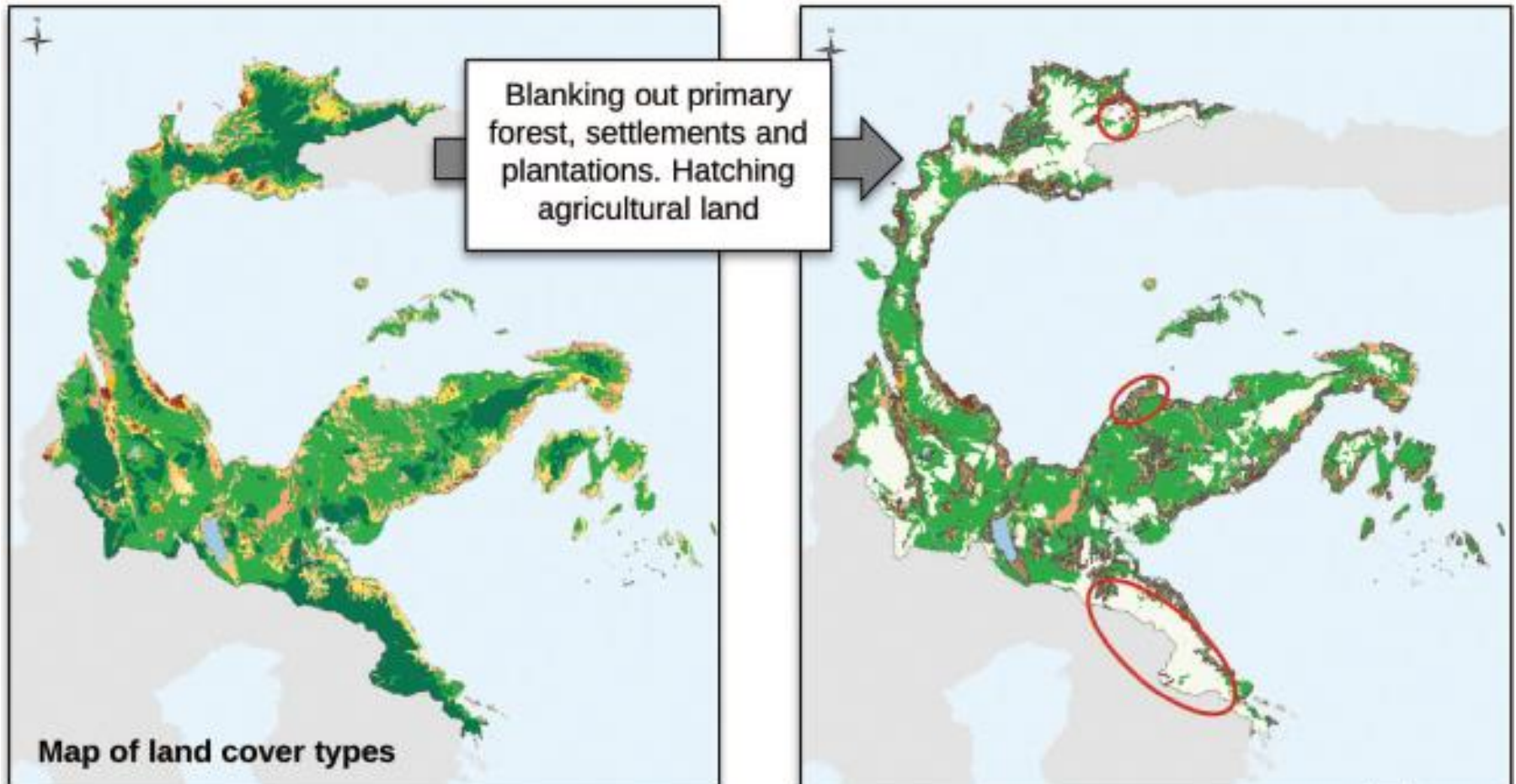




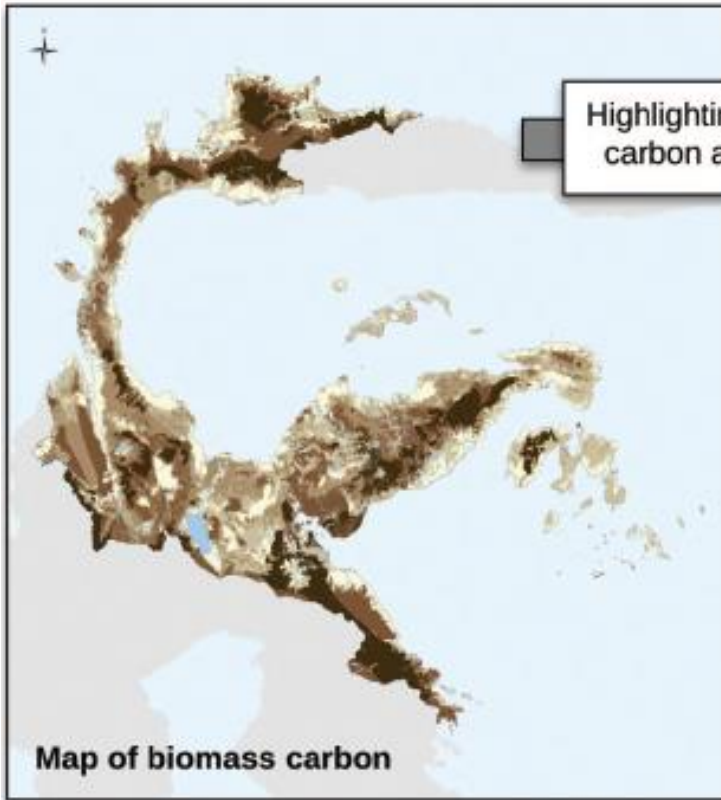
**For example,
a map of
potential
areas for
REDD+
actions to
rehabilitate
forests in
Central
Sulawesi,
Indonesia**

How was this map created? There is a spatial logic or workflow behind it

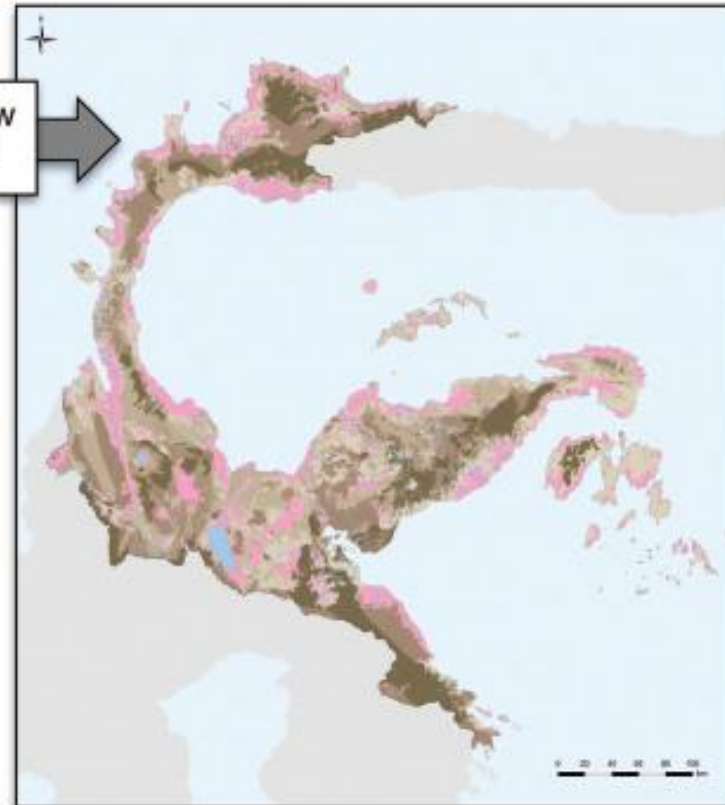
1. Land cover types: where are areas suitable for rehabilitation?



2. Biomass carbon: what are the carbon stocks in those areas?

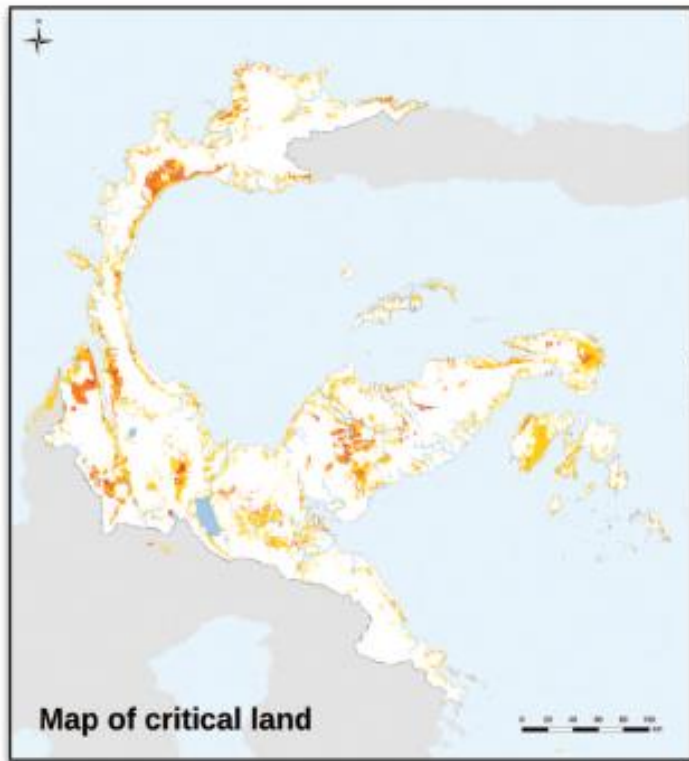


Highlighting low carbon areas

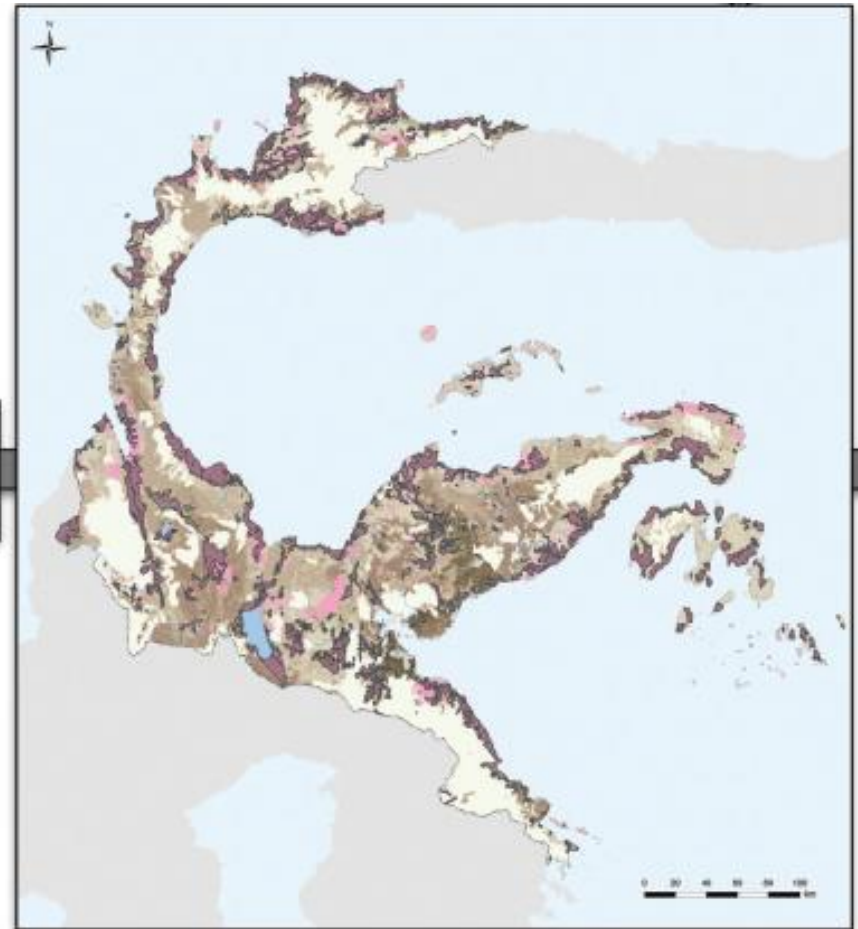


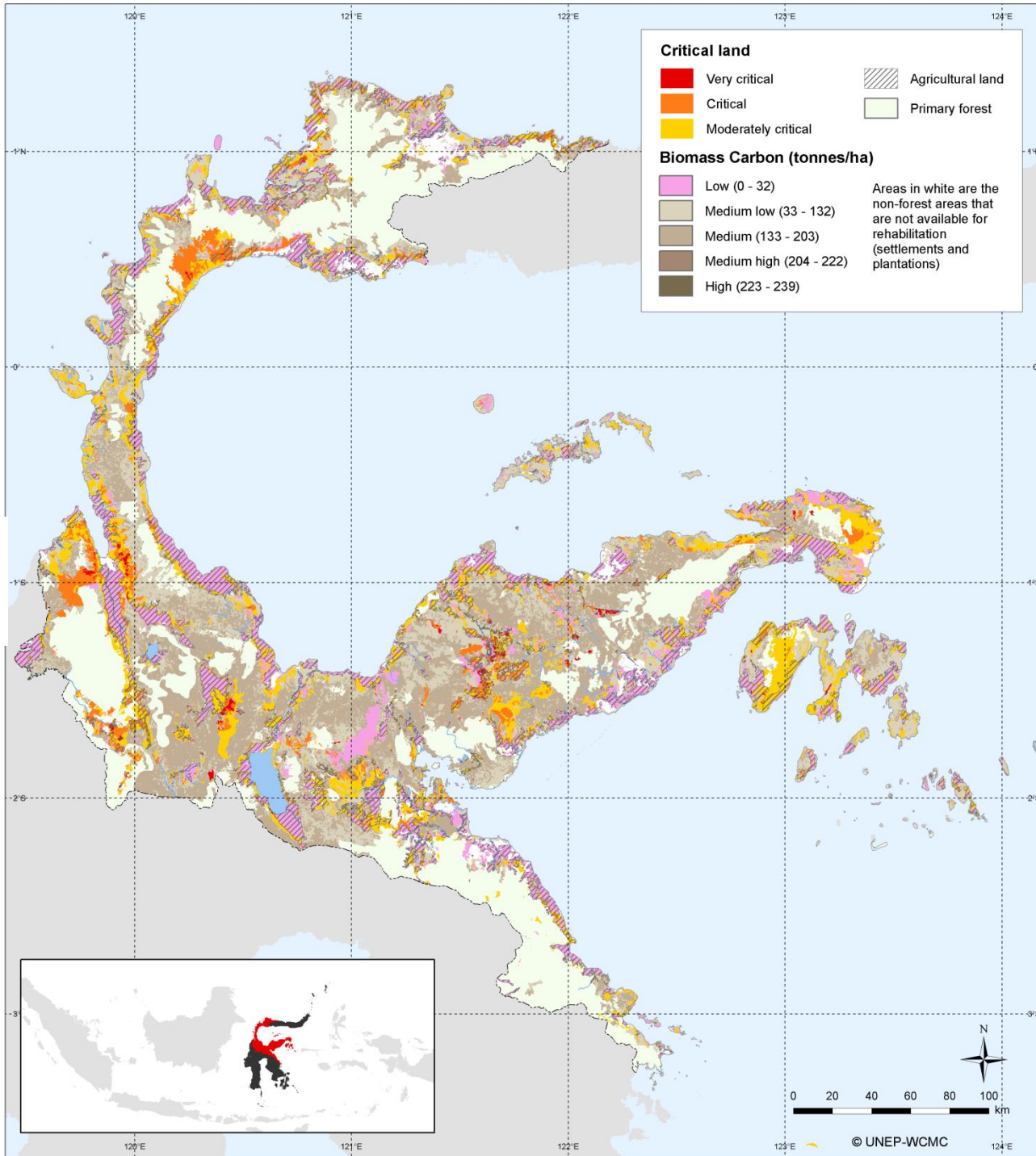
Displaying information on carbon stocks in areas that are not blanked out

3. Overlay: which are the important areas?

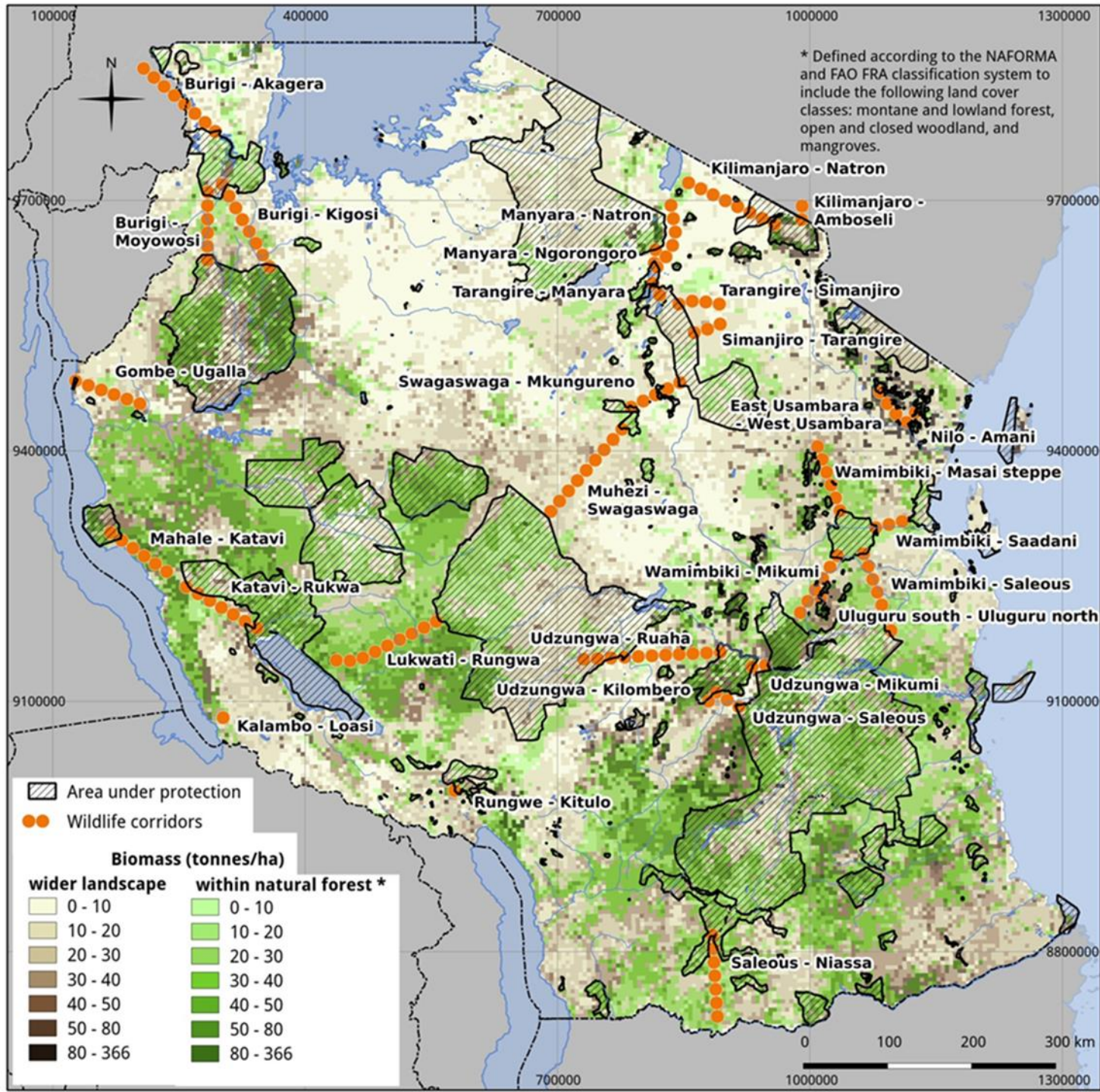


Highlighting
critical
land areas





4. Final map: potential areas for REDD+ actions to rehabilitate forests



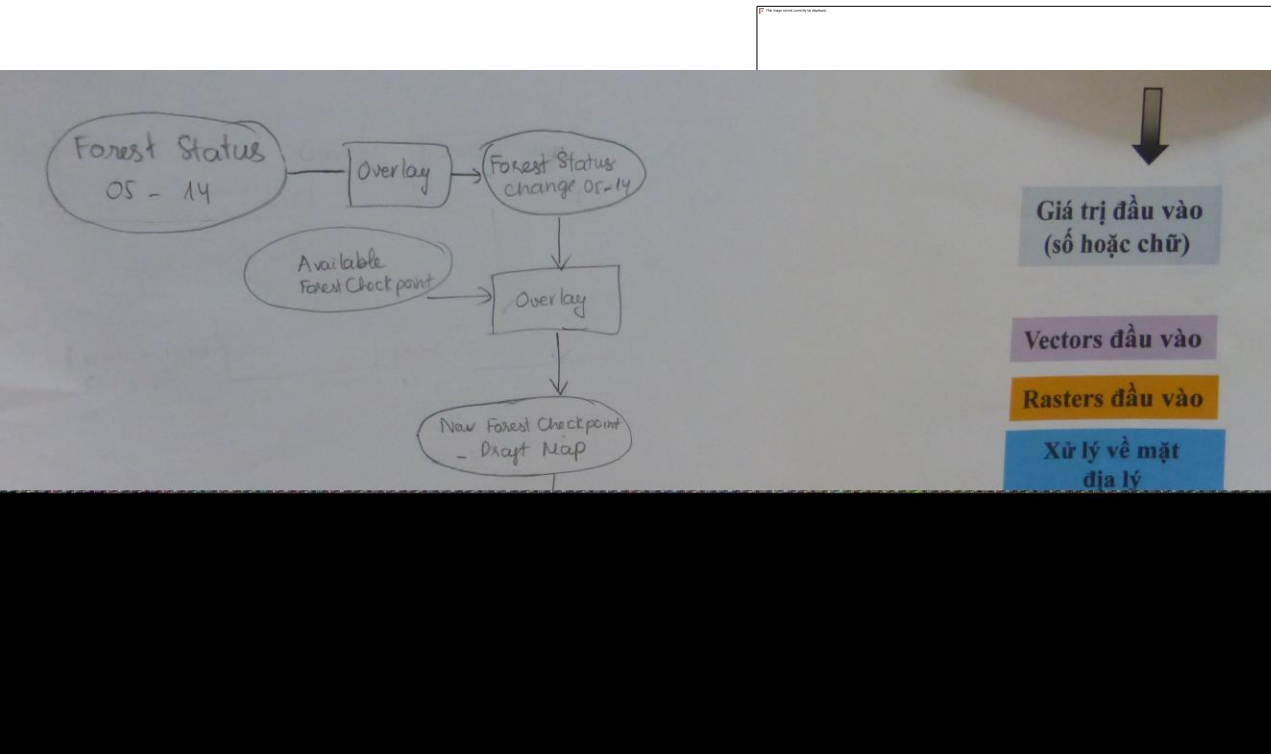
A spatial workflow should help clarify the following:

- What is the question that we are trying to help answer?
 - *E.g. Which areas in a landscape should be priorities for sustainable forest management certification?*
- What is the output map that we will create to help answer this question?
 - *E.g. Priority Forest Areas for Expansion of SFM Certification Program*
- What input layers / data needed to develop an output map?
 - *E.g. forest status, forest management units, areas already certified, High Conservation Value Forests*

-
- What other goals are important for the intervention?
 - *E.g. protecting biodiversity as well as carbon, contributing to socio-economic development*
 - What assumptions / thresholds do we need to define?
 - *E.g. What kind of SFM certification program is it? Are there eligibility criteria? What counts as high biodiversity?*
 - What GIS processes or tools will we use to process and combine the input layers?
 - *E.g. overlay, raster analysis, buffers....*
 - How will we validate or check the output map?
 - *E.g. consultation with experts / stakeholders*

What do spatial workflows look like?

- Workflows can be simple or complex
- They can be created on paper, in a flow chart, or in GIS software



**Group exercise: develop a
workflow for planning a forest-
related activity**



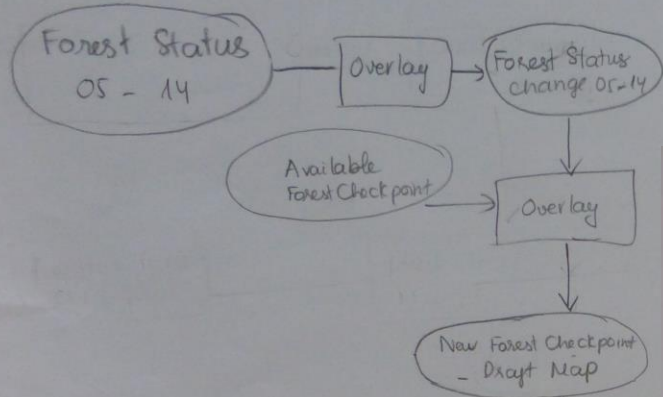
-
- **Step 1** - Split into groups, one per province
 - **Step 2** - Choose a forest sector activity (from the hat)
 - **Step 3** - Define your output map: what question are you trying to answer? What map will help you answer that question?



-
- **Step 4** – Define planning criteria:
 - Where can the activity be implemented?
 - Where can't it be implemented?
 - Where are potential benefits higher and risks lower?
 - **Step 5** – What input layers / data will you use to create the map?
 - **Step 6** - Draw your workflow.

Use large paper to draw a flowchart showing the steps for using/ combining input layers, in order to make the output map.



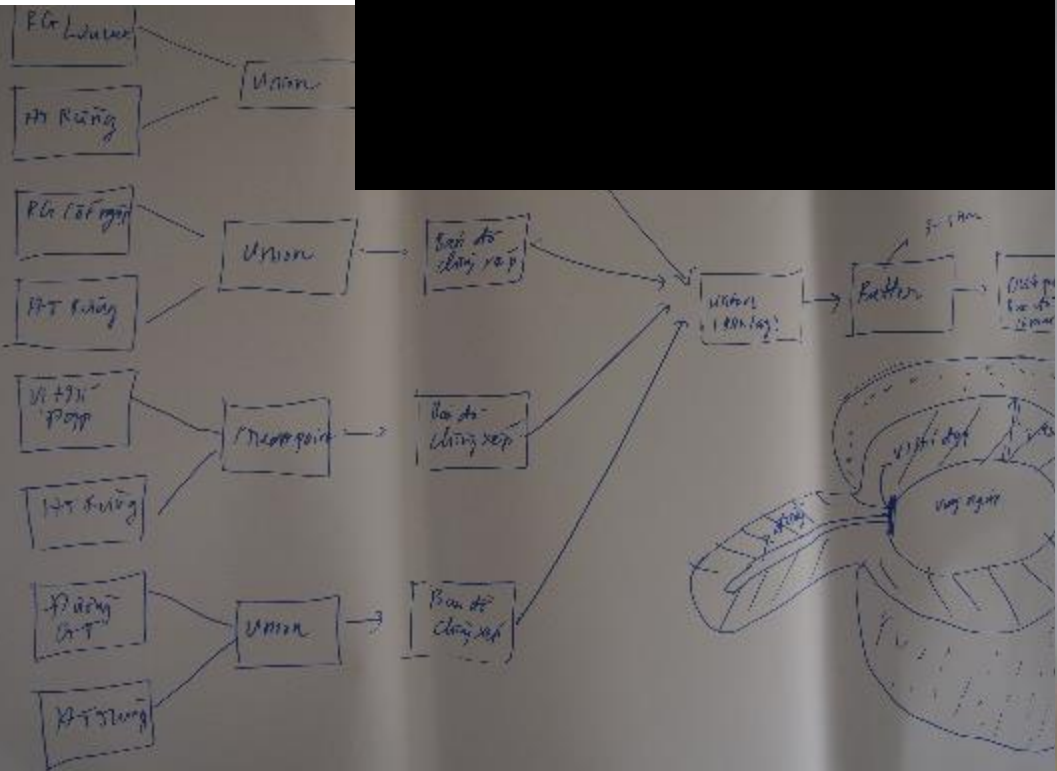


Giá trị đầu vào
(các biến số)

DRIVER: Rice (small-scale)

layer:

- 1 - Rice Export ✓ ~~Policy~~
- 2 - Population Census ✓
- 3 - land Cover Type / Forest Cover ✓
- 4 - Water body ✓
- 5 - Road ✓
- 6 - Rain fall ✓
- 7 - ~~efficiency~~ Technology
- 8 - Admin-boundary ✓



- How:
1. Display where the large rice export by commune boundary
 2. Display population density -
 3. Display suitable land -
 5. Show a distance from Village/ farm to market
 6. Show a ^{annual} average of rainfall by commune
 4. Identify accessible water body

Thank you!

charlotte.hicks@unep-wcmc.org

