Multi-functionality in a conservation landscape: the case of Bac Kan province, northern Vietnam

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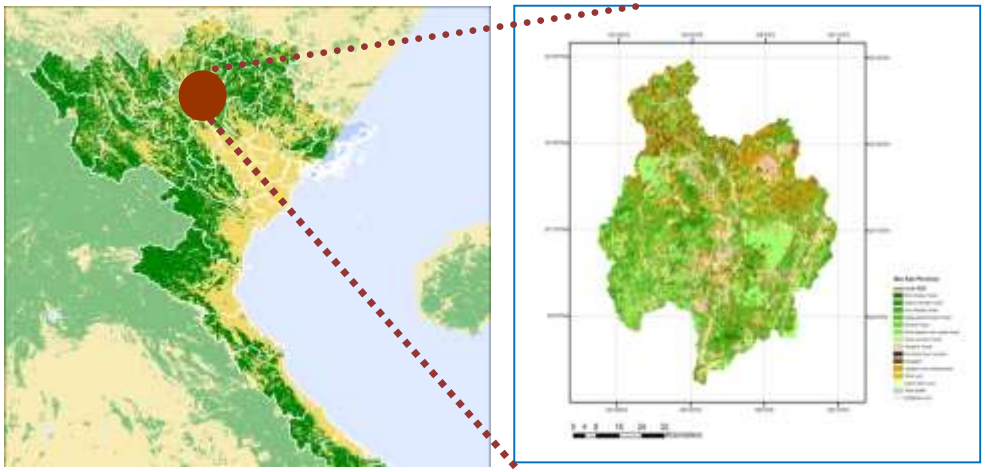
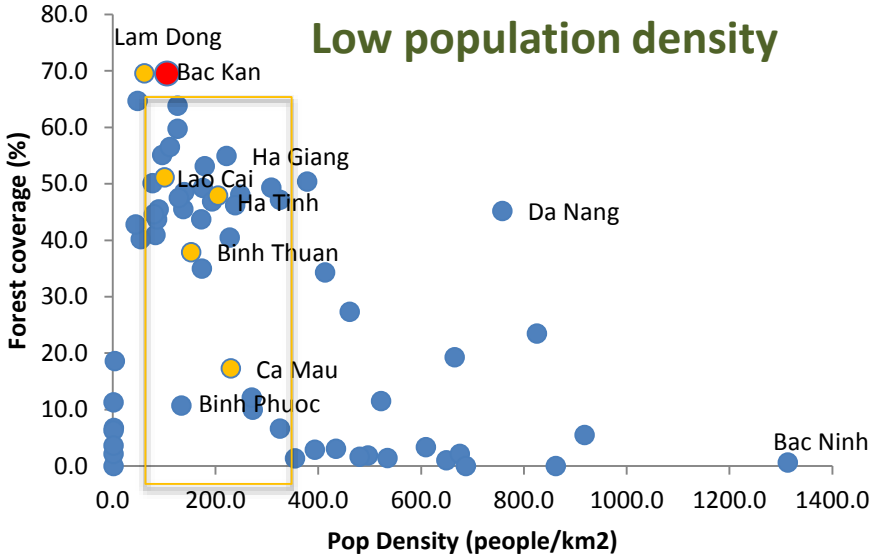
The landscape – Bac Kan province

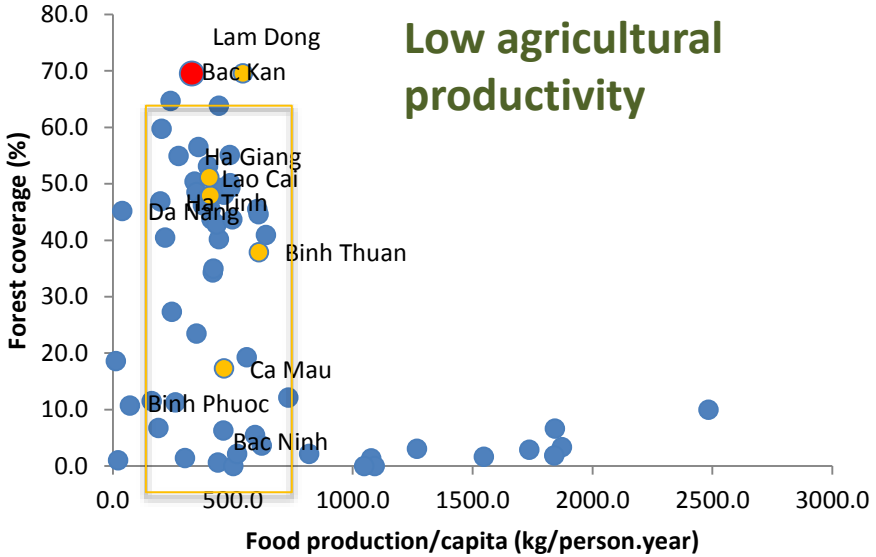


- Total area: ~ 500,000 ha
- Population: ~300,000 people
- Forestry land > 400,000 ha, agriculture land 60,000 ha
- Drivers of D&D: Agriculture (slash & burn) and Illegal logging

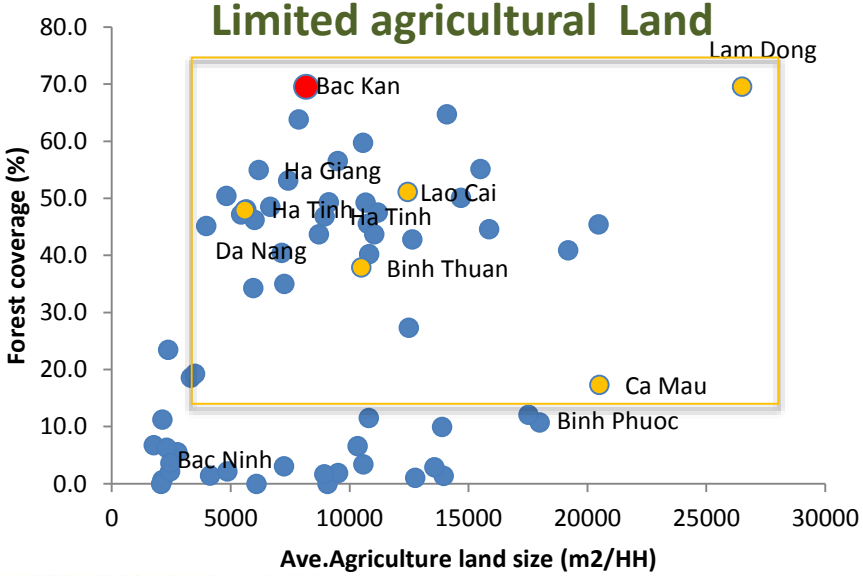
Low population density



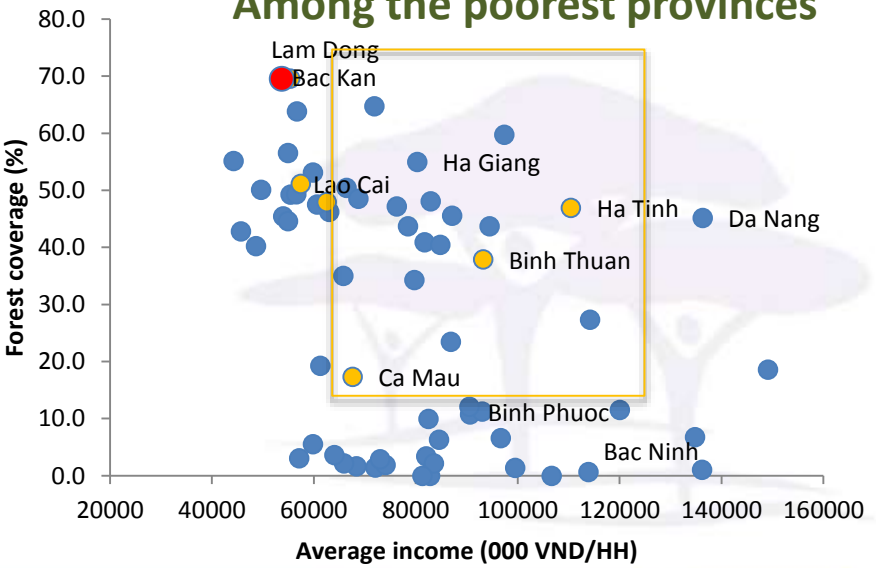
Low agricultural productivity



Limited agricultural Land



Among the poorest provinces



General Statistics Office, 2012

Questions

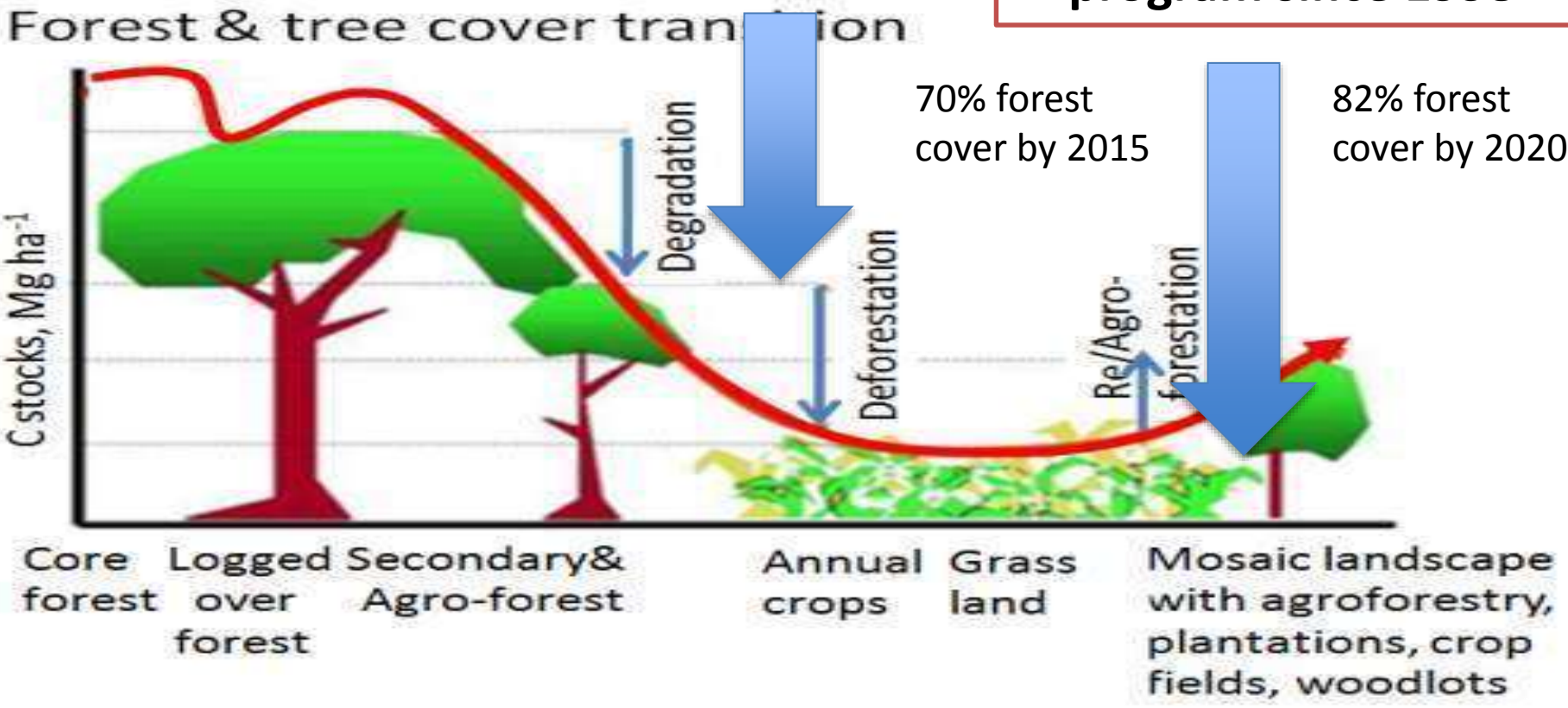
1. What is the stage of forest transition? Can economic incentives help to stop D&D?
2. Does a high forest cover guarantee sustainable income and other needs, even conservation?
3. Can REDD+/PES help to secure landscape multi-functionality?
4. How should future planning be made to reconcile local people and policy makers' perspectives?

All of the above in relation to national & provincial socio-economic development strategies

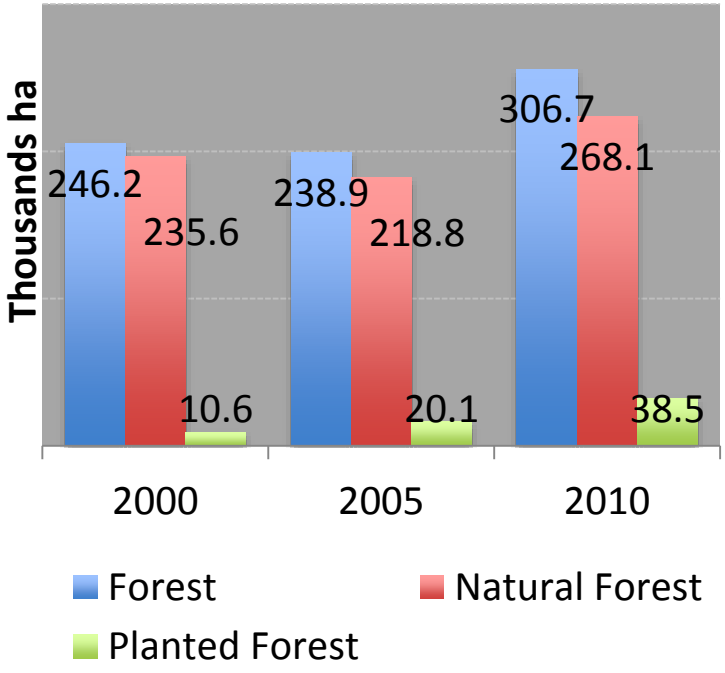
Forest transition

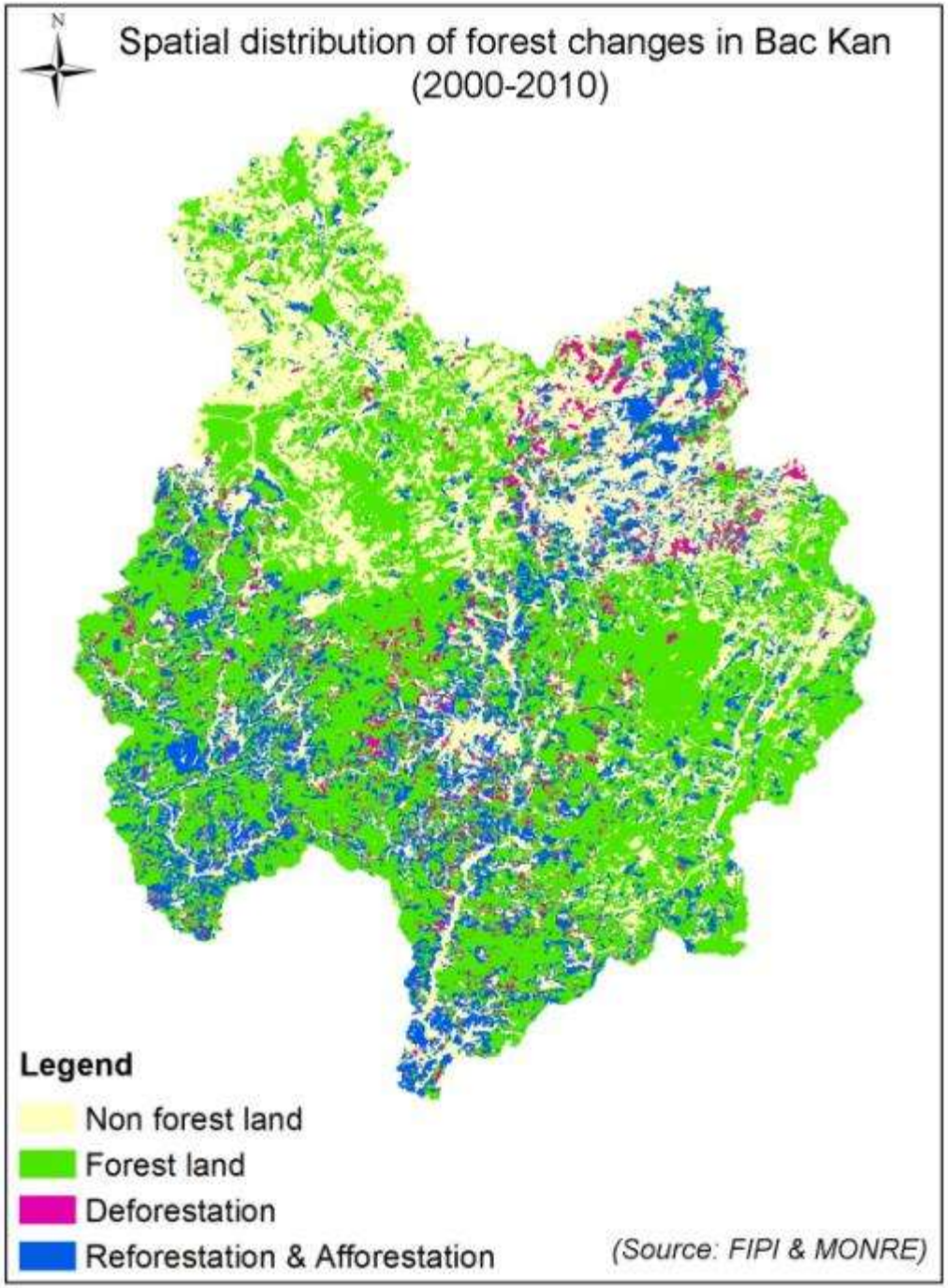
Shifting cultivators, loggers

Government: 5 M hectares reforestation program since 1998



What happened to the forest?

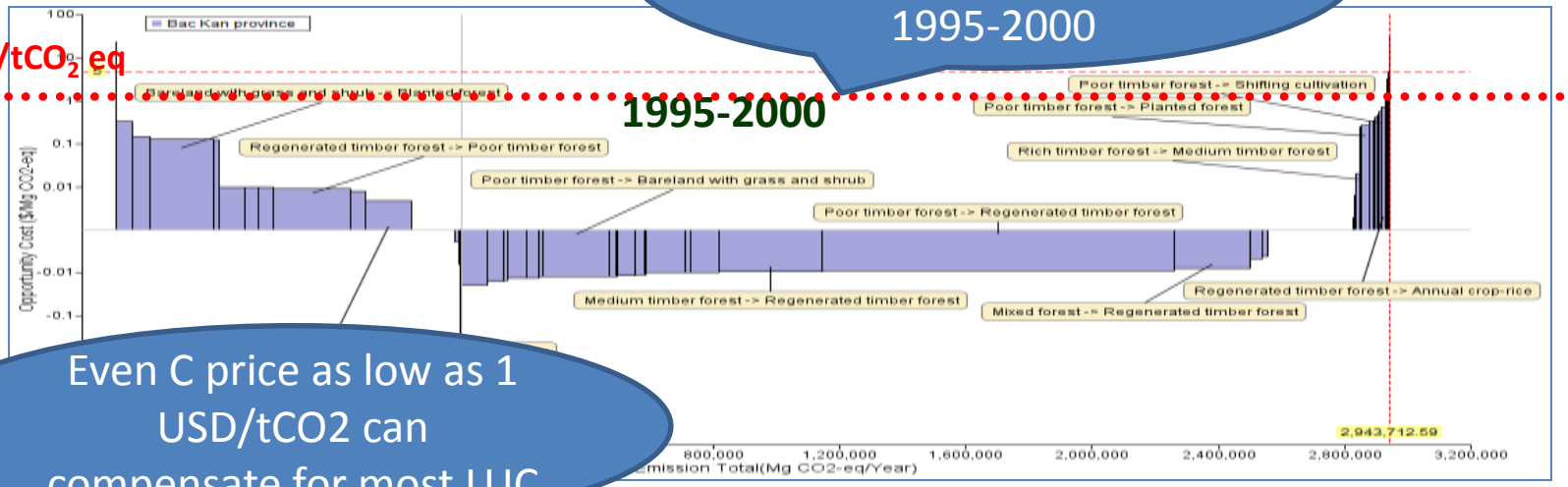




Is CO_2 emission from LUC avoidable by C payment?

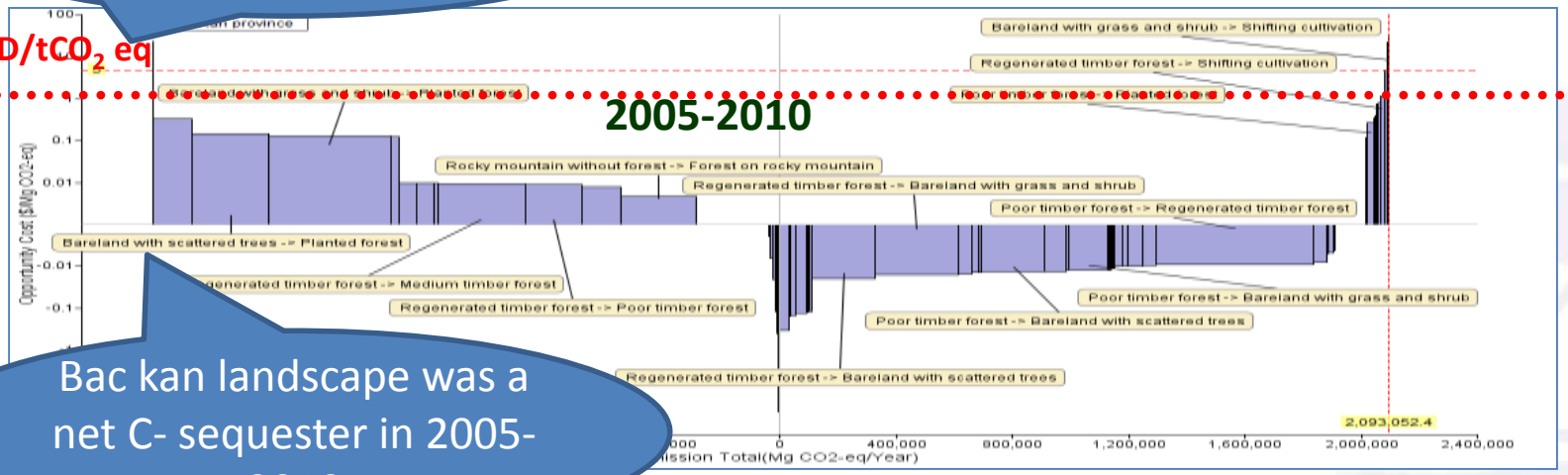
Bac kan landscape was a net emitter (in LUC) in 1995-2000

1 USD/tCO_2 eq



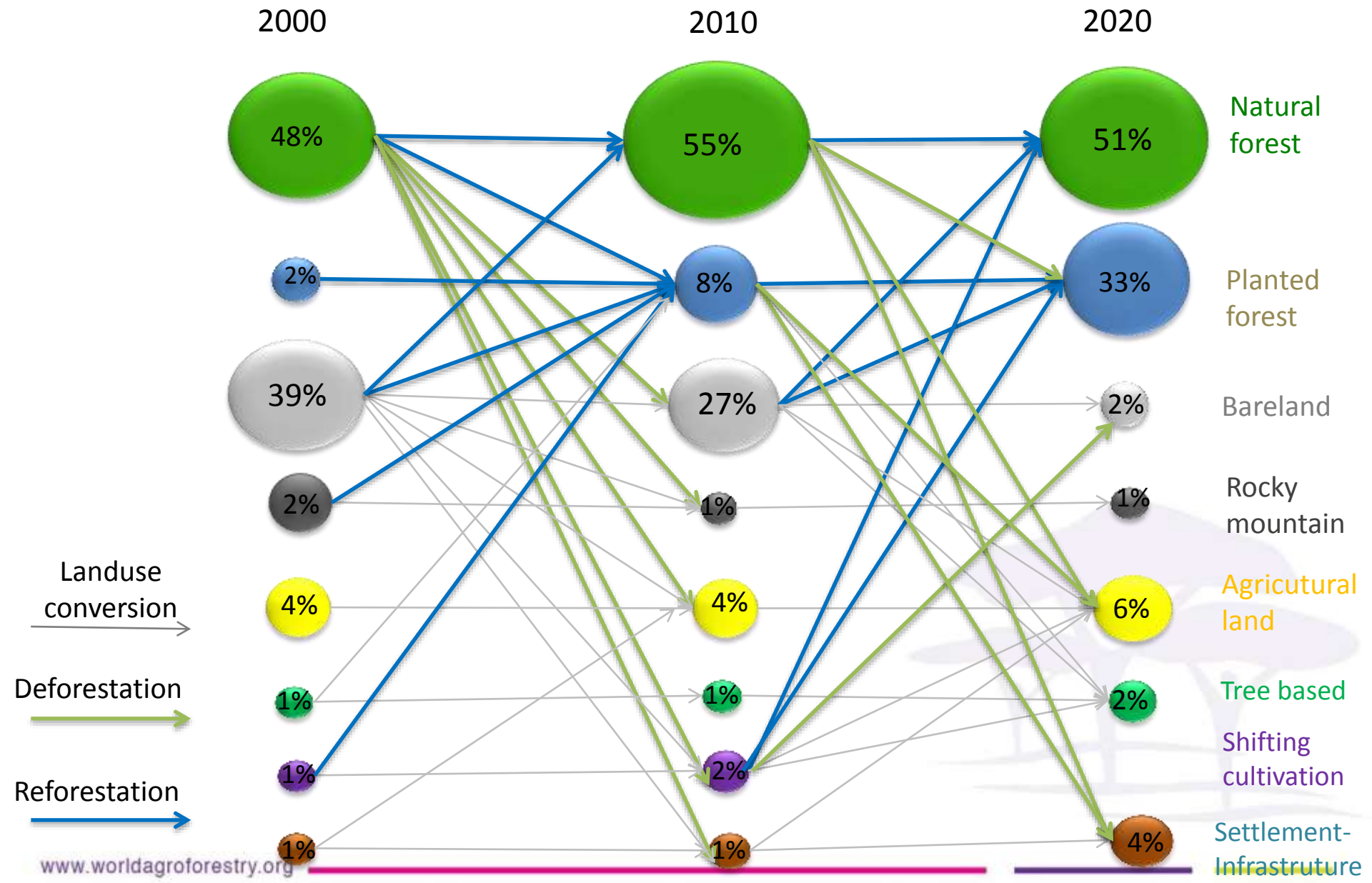
Even C price as low as 1 USD/tCO2 can compensate for most LUC

1 USD/tCO_2 eq



Bac kan landscape was a net C- sequester in 2005-2010

Pathway of forest change

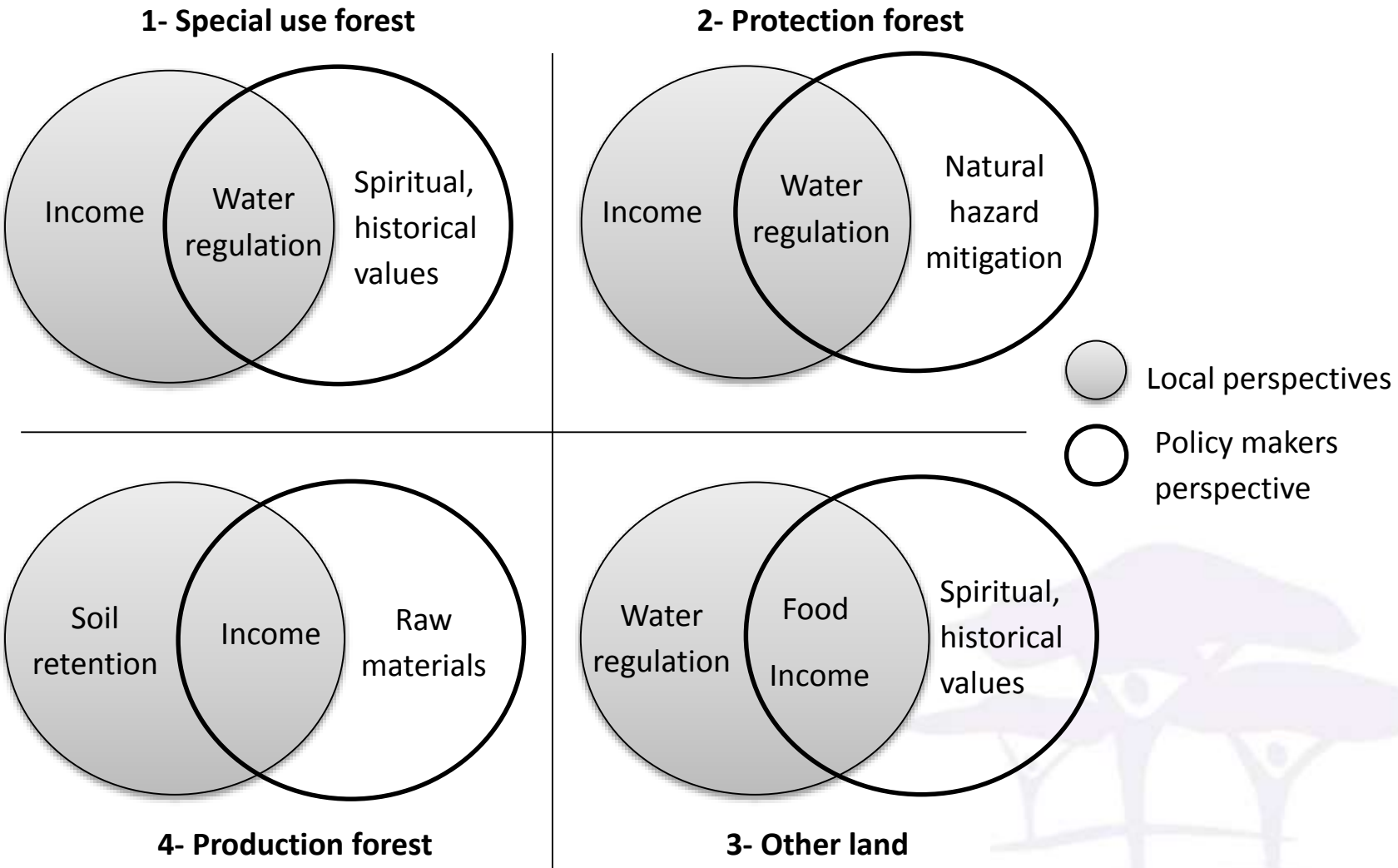


What is the right pathway to take?

- ✓ More forest conservation?
- ✓ More economic development?
- ✓ Both at the same time?

Stakeholders have different priorities

farmers vs. policy makers



Analytical hierarchy process (Saaty, 1990) with pairwise ranking through FGDs and individual ranking at commune and district levels (186)

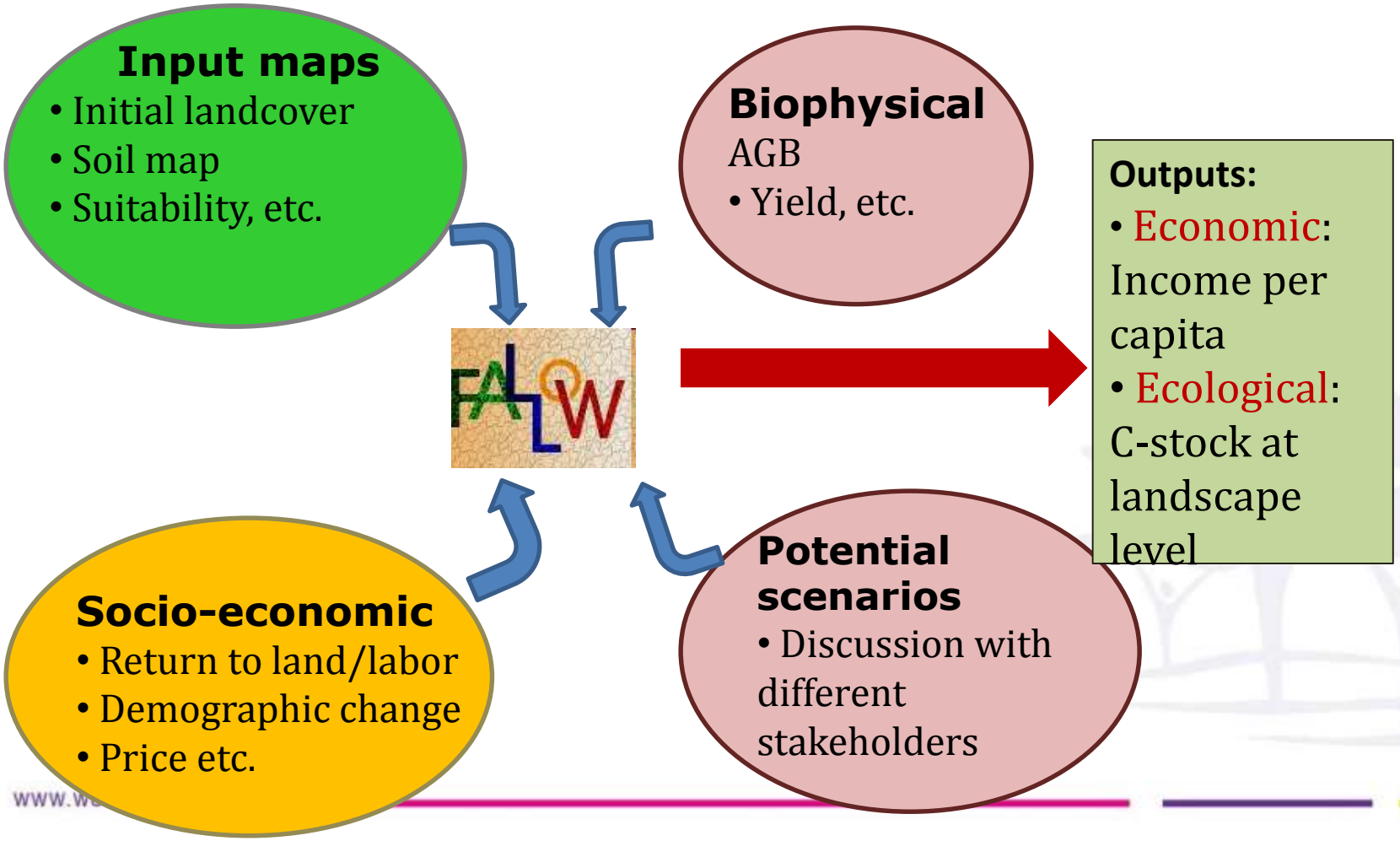
Can a landscape equally address different stakeholder interests at the same time?

What land use options provide optimal environmental services and income benefits?

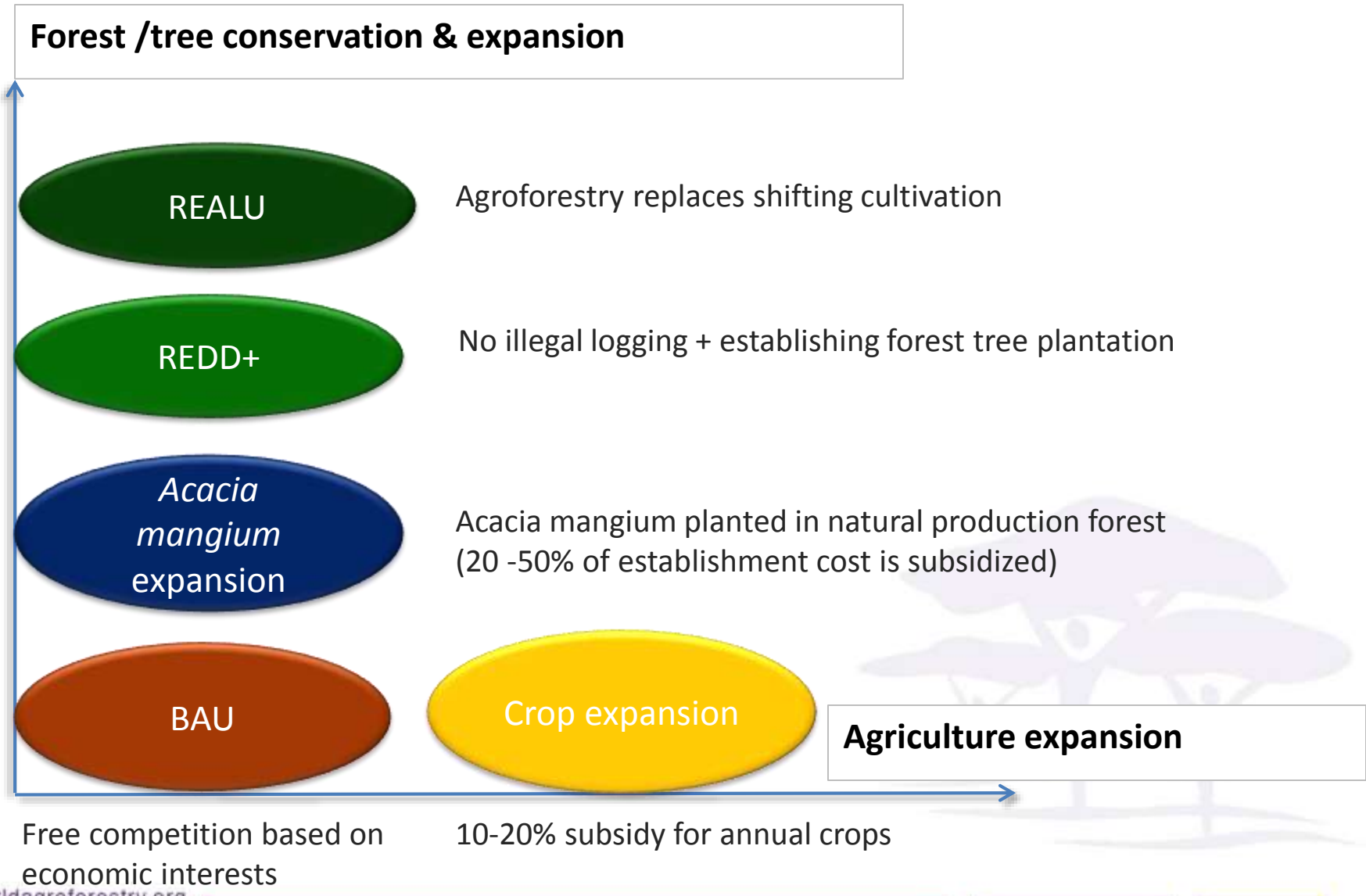
Different needs, contexts require different responses on the ground.

1. Analyse land use trade-offs

Forest, Agroforest, Low-value Lands Or Waste (FALLOW) model

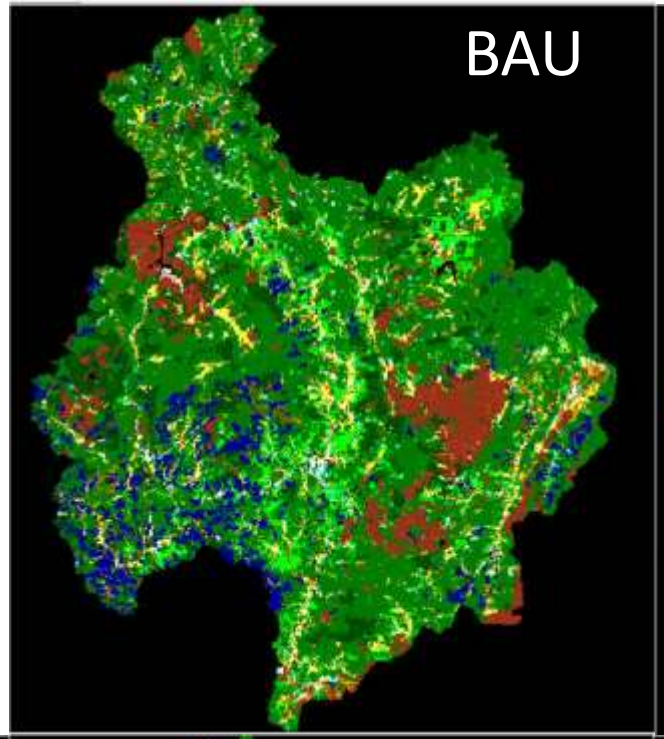


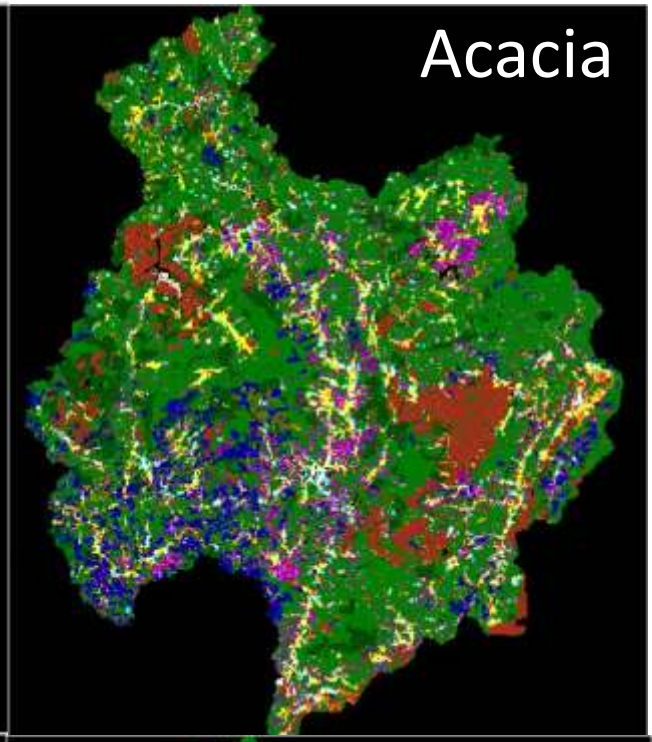
Land use change scenarios

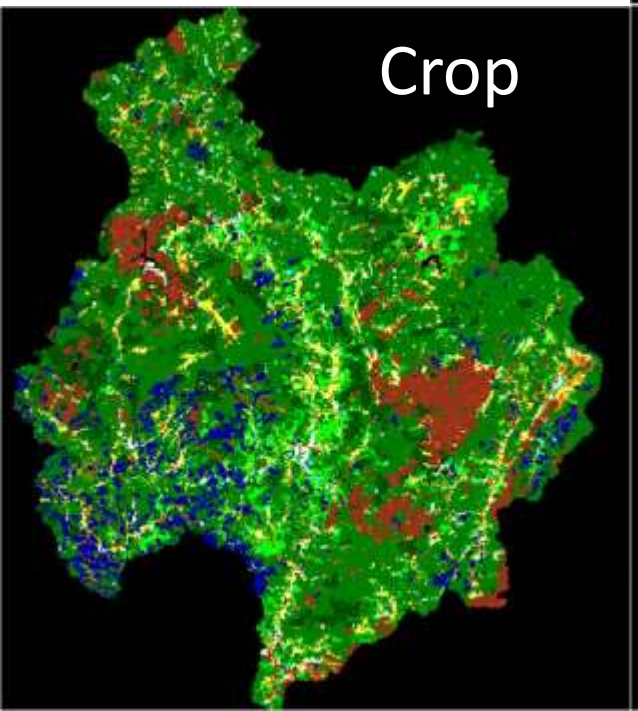


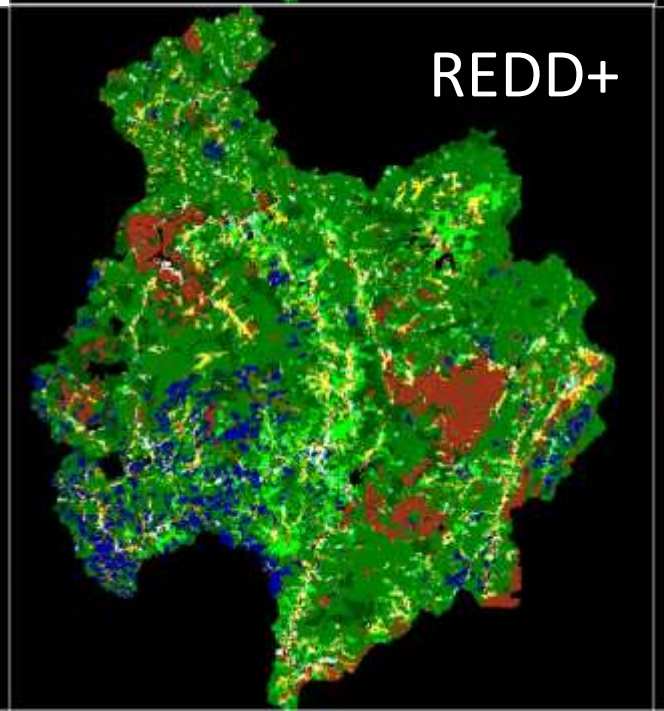
Simulation results

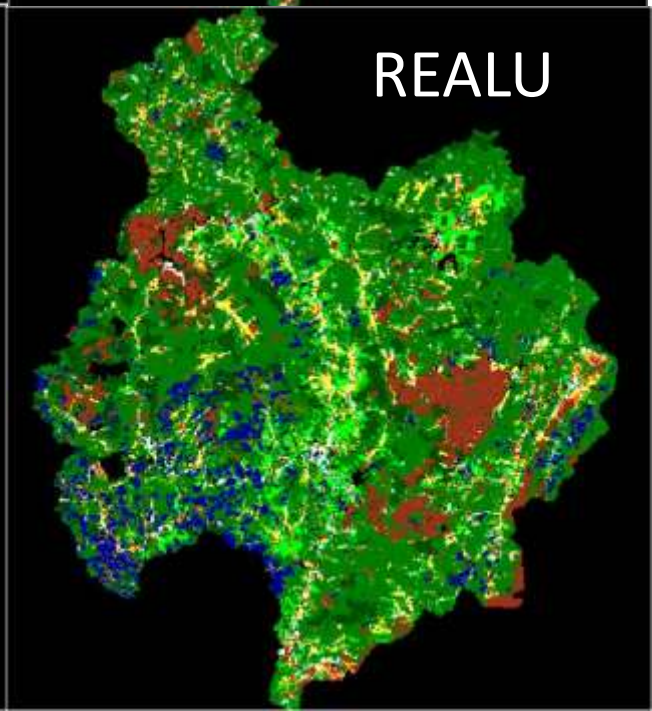
Landcover distribution at 2040







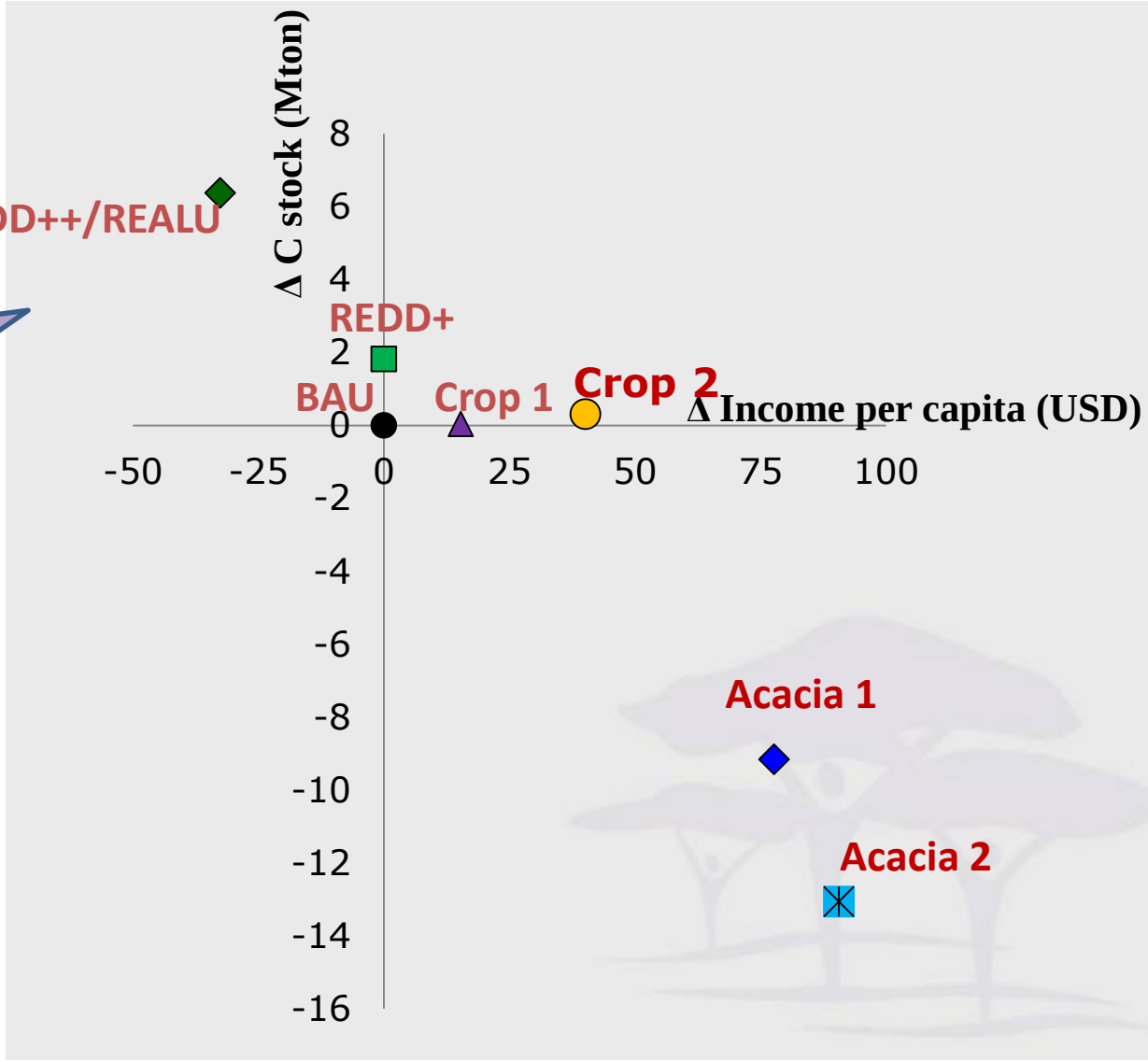




Trade-offs between C and $

Trees inside and outside forests bring more carbon benefits in the landscape

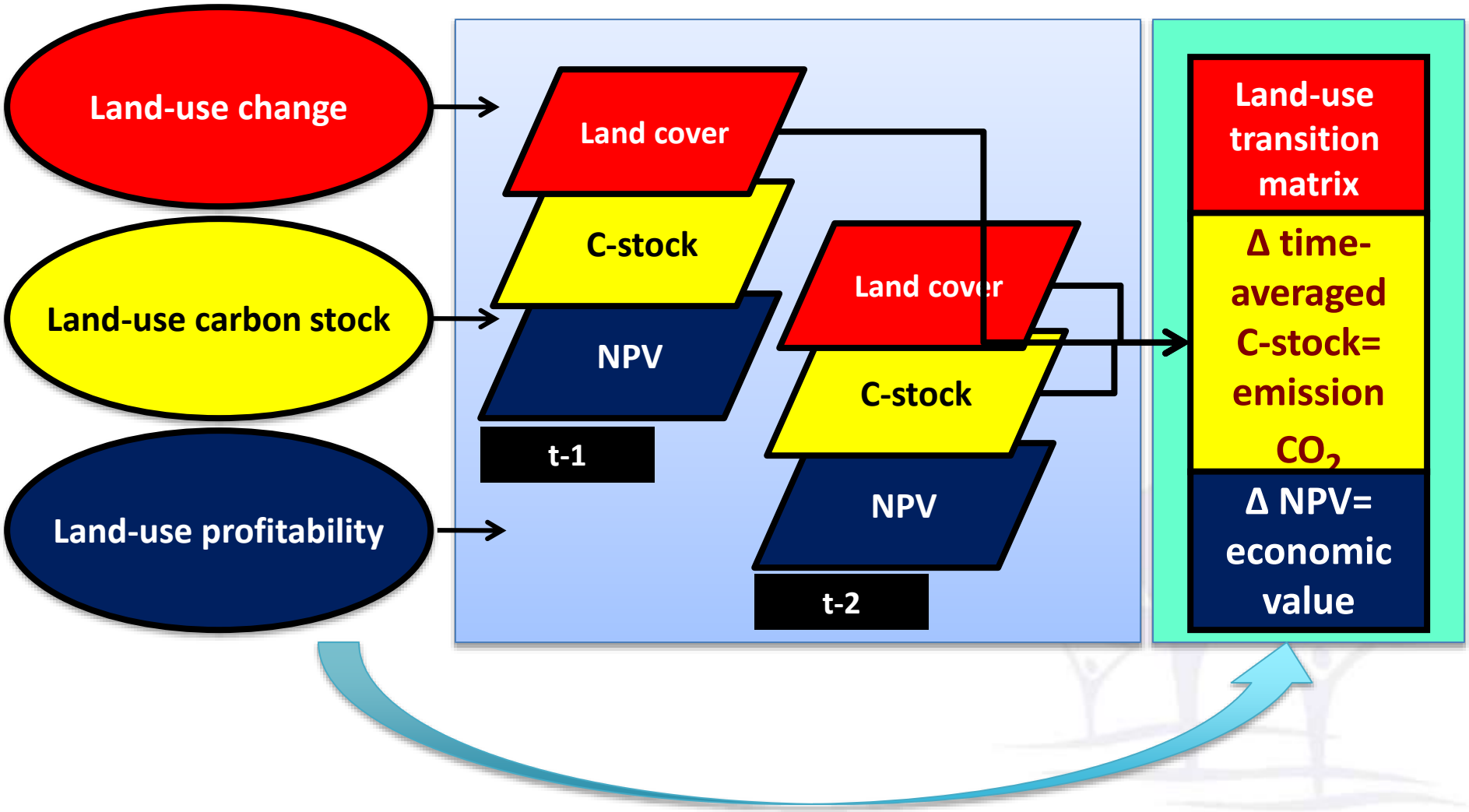
Reducing Emissions from All Land Uses (REALU) can be a win-win scenario, if incentives will be provided



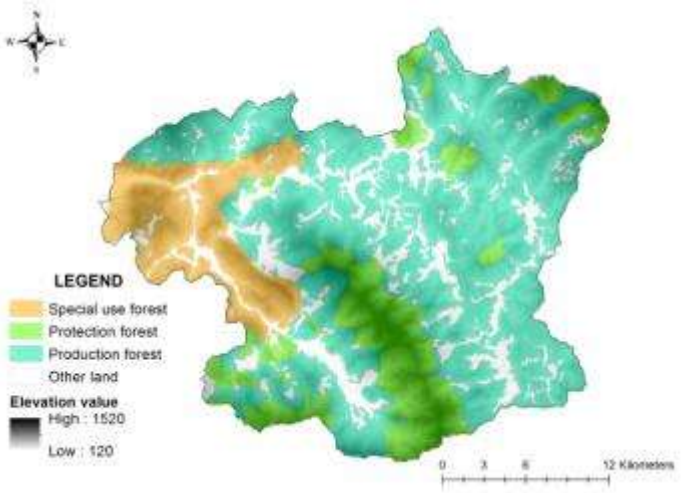
2. Adopt participatory land use planning for low emissions development strategy

LUWES framework for reconciling different objectives

- Multiple functions, multiple needs, multiple agenda, multiple stakeholders, multiple policies, multiple scale issues from limited resources
- Reconciliation is necessary; often involving trade-offs
- Land use planning for development and environmental services should be conducted inclusively and by integrating spatial and development planning on valid and up-to-date data and information.
- Capacity strengthening for land use planning in tropical landscapes is necessary
- Several rapid tools for assessing environmental services, including simple indicators are available


Land-use change
Land-use carbon stock
Land-use profitability
Land cover
C-stock
NPV
t-1
Land cover
C-stock
NPV
t-2
Land-use transition matrix
Δ time-averaged C-stock= emission CO_2
Δ NPV= economic value

Piloting LUWES in Ba Be district

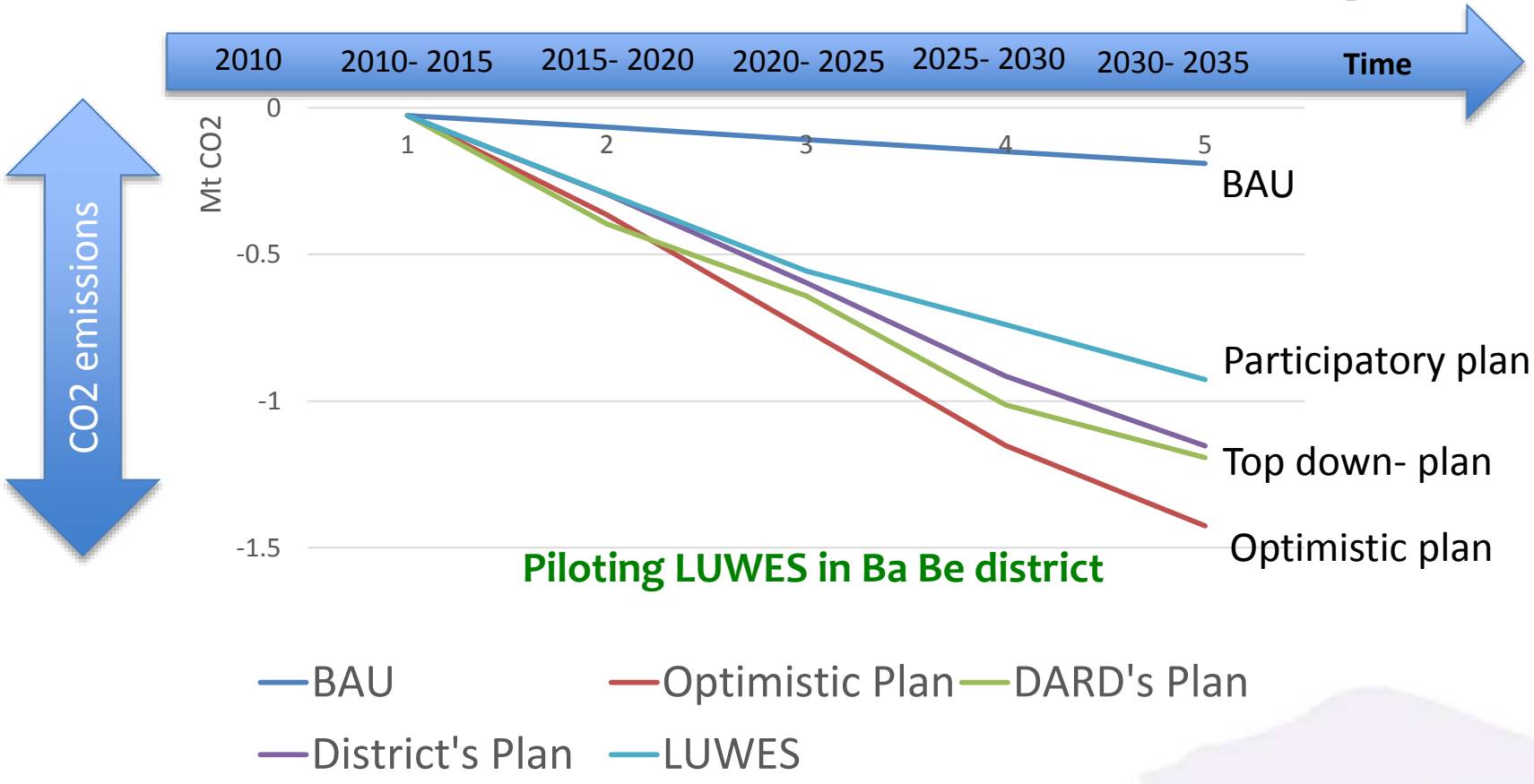


Special use F	Protection F	Production F	Non F
• 8,797 ha • Forest protection contract • Forest planting (small scale) • Natural regeneration	• 11,528 ha • Forest protection contract • Natural regeneration • Forest planting on bare land	• 37,034 ha • Forest planting on bare land • Natural regeneration • Converting shifting cultivation area into agroforestry land use systems	• 10,838 ha • Accelerating production area such as AF or fruit tree planting

Scenario development

- BAU: business as usual (as of 2005-2010)
- Scenario 1 (optimistic): Pprotect all forests and replant forest wherever possible
- Scenario 2 (DARD): Forestry planning by provincial DARD
- Scenario 3 (District consultation): DARD's plan + district authority consultation
- Scenario 4 (LUWES- participatory scenario): Local consultation with villagers and communities

Emission reductions by different land use plans



DARD's plan: Land sparing approach, strict forest protection and planting forest anywhere possible

LUWES plan: Land sharing approach, forest should be used to meet local demands and plantation of TOF can help to achieve carbon and livelihood objectives

What we have learnt?

- ✓ REDD+ should be designed to achieve multiple objectives rather than solely climate-related
- ✓ REDD+ needs integrated, bottom-up and multi stakeholder land-use planning
- ✓ Carbon is important, but don't forget other environmental services and people's livelihoods
- ✓ The provincial government needs to define their development pathway in ways that simultaneously address conservation and development ambitions
- ✓ A landscape perspective is needed, to ensure that other sectors are in synch with, or supportive of REDD++ objectives

THANK YOU VERY MUCH!

Norad

ASB Partnership for the Tropical Forest Margins

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