

B10

Landscape-level assessment of ecological and socio-economic functions of rainforest transformation systems

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Guiding question

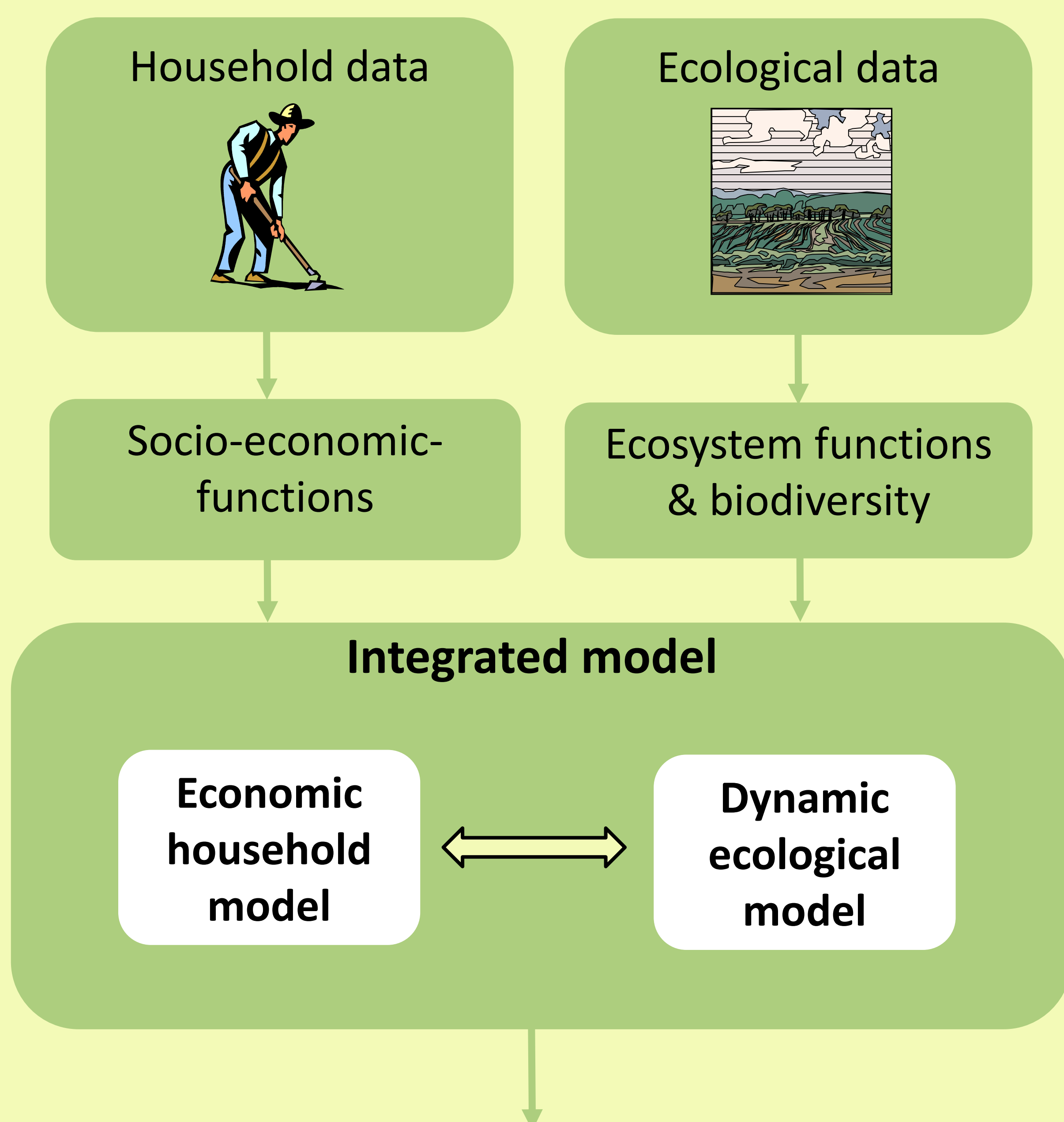
What kind of landscape mosaic is needed to improve the ensemble of biodiversity, ecosystem functioning and economic benefit? How can we optimize a mosaic landscape?

Overall aims

- ➔ To identify synergies and trade-offs within and between ecological and socio-economic functions
- ➔ To scale up in space and time from local to landscape scales

Approach

We are developing a **strategic integrated model** of ecological and socio-economic functions.

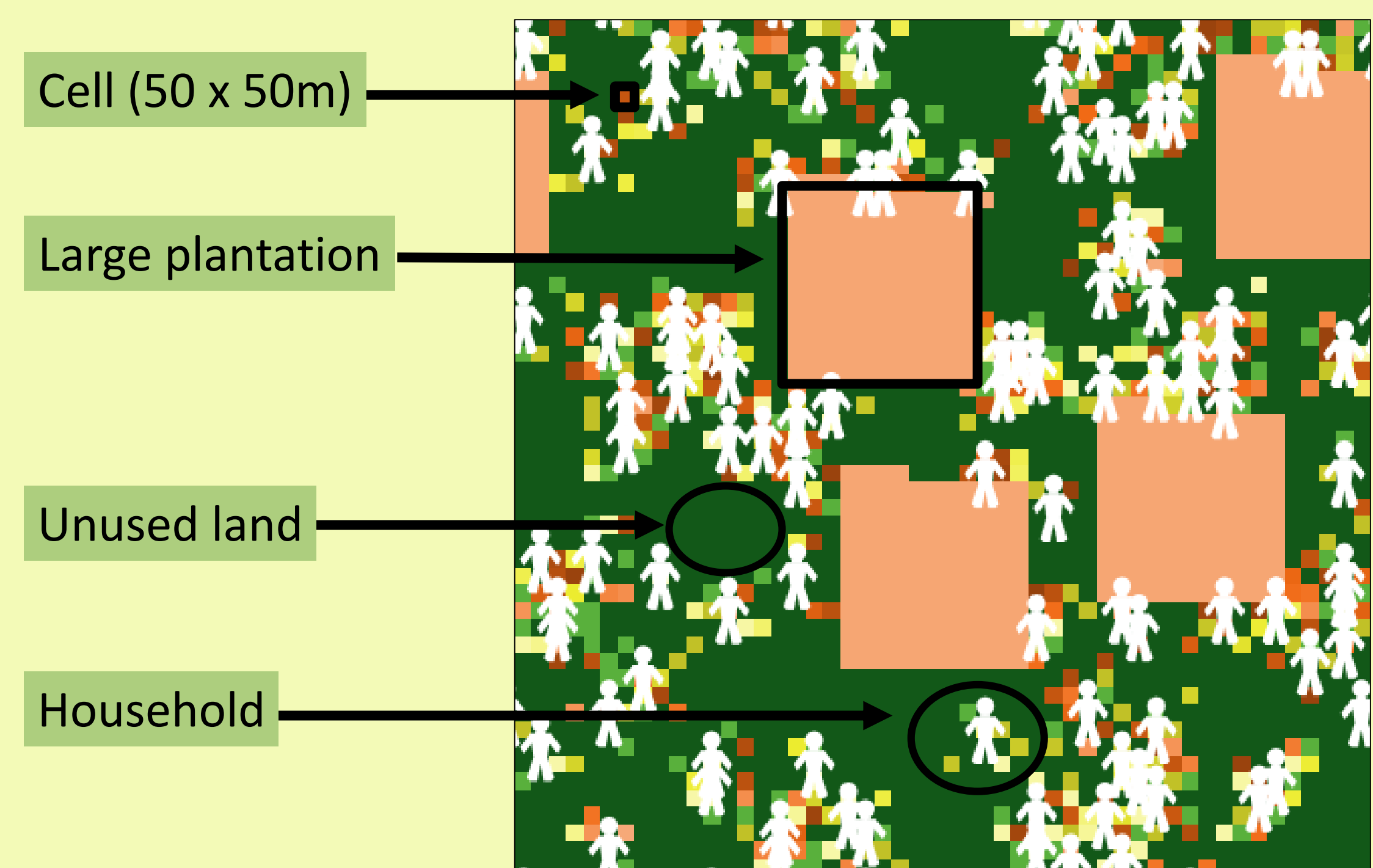


Outlook

- Comparison of land-use types concerning different ecological and socio-economic functions
- Identification of synergies and trade-offs between functions
- Analysis of the role of spatial arrangement for these functions (landscape level)
- Optimization of landscape mosaic under constraints
- Derivation of hypotheses for future empirical work

Status

In a first model version we incorporate the functions carbon storage and household profit.

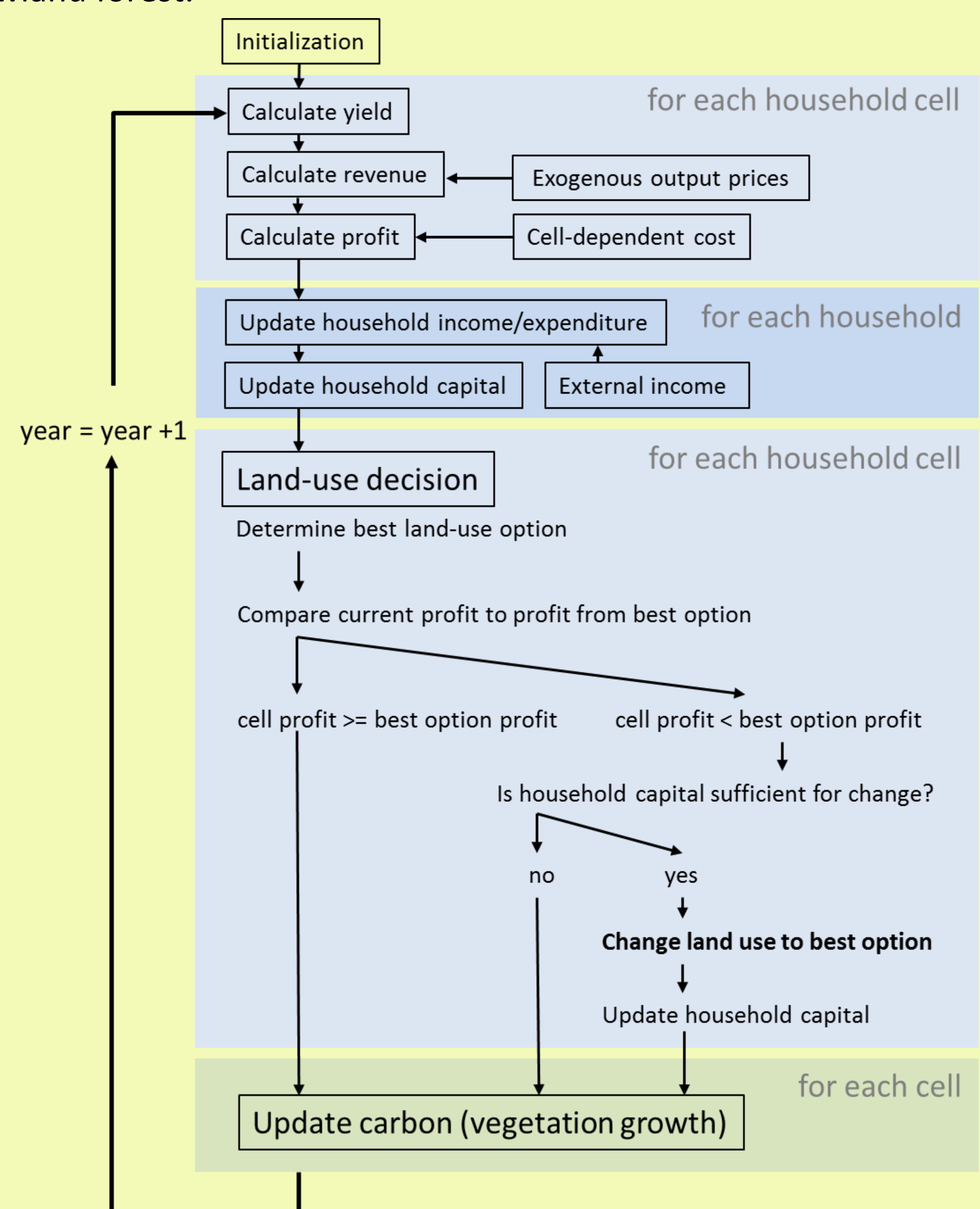


Model entities:

The landscape is comprised of cells owned by farm households, unused land and large oil palm plantations.

Investigated transformation systems:

Oil palm plantation, rubber plantation, jungle rubber, secondary lowland forest.



Flow chart of main model processes.

Questions to discuss

- Are there specific household characteristics leading to a certain land use?
- Which differences in management strategies of the systems should be incorporated?
- What do we know about how different management strategies affect ecosystem functions and yield?