The impact of socio-economic land-use decisions on Ecosystem Services in small catchments

TERRECO project 27

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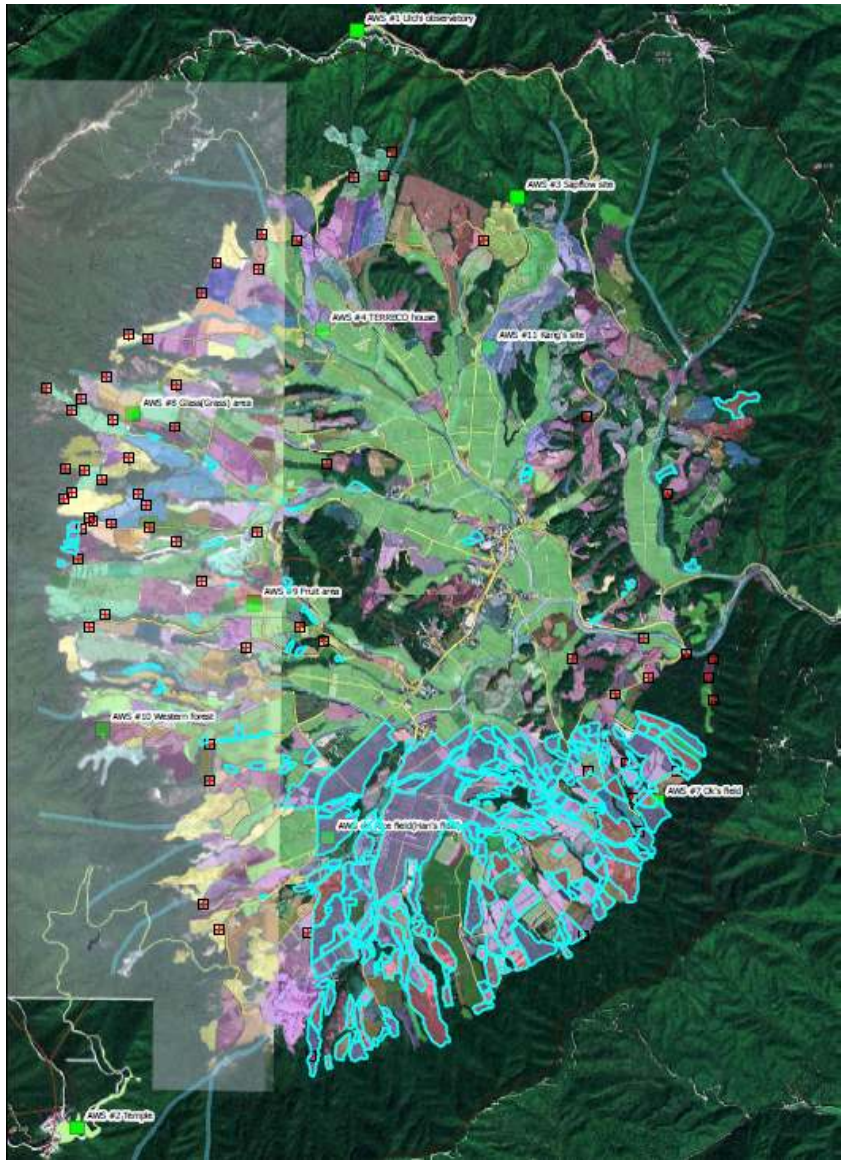
Structure

- Scale and overall aims
  - Analysis and of land-use decision making
  - Spatially-explicit modelling of land-use impacts on Ecosystem Services
- Project integration

Research area

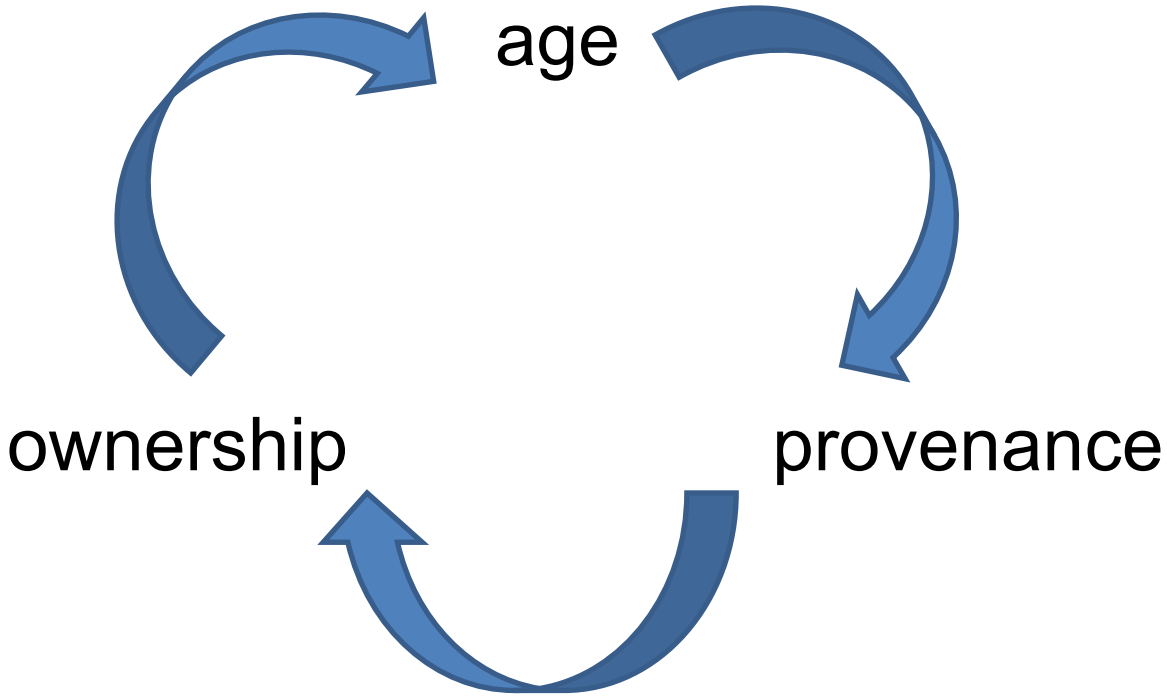


Overall aims

1. Analysis of local farmers' decision making with respect to their land-use behavior
2. Spatially-explicit illustration of the impacts of land-use decisions on the provision of Ecosystem Services
3. Development of a spatially-explicit land-use model that can serve as decision-support tool

First impressions about farmers' decision making

→ Land-use decisions are mainly economically driven, and largely determined by the concurrence of



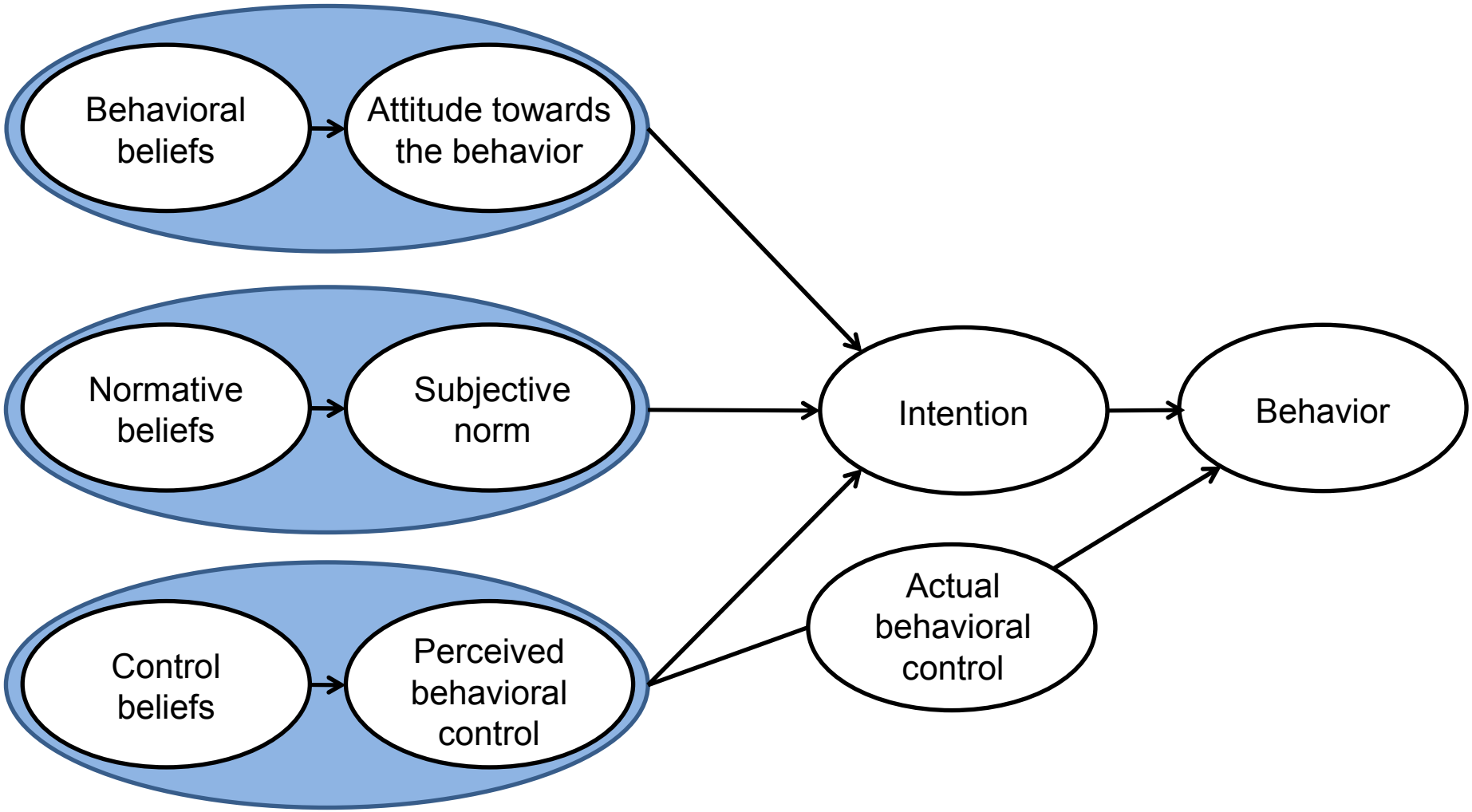
First impressions about farmers' decision making (cont.)

→ Decision makers can roughly be distinguished by

Risk-prone	vs	Risk-averse
(young, outsider, tenant)		(old, insider, owner)

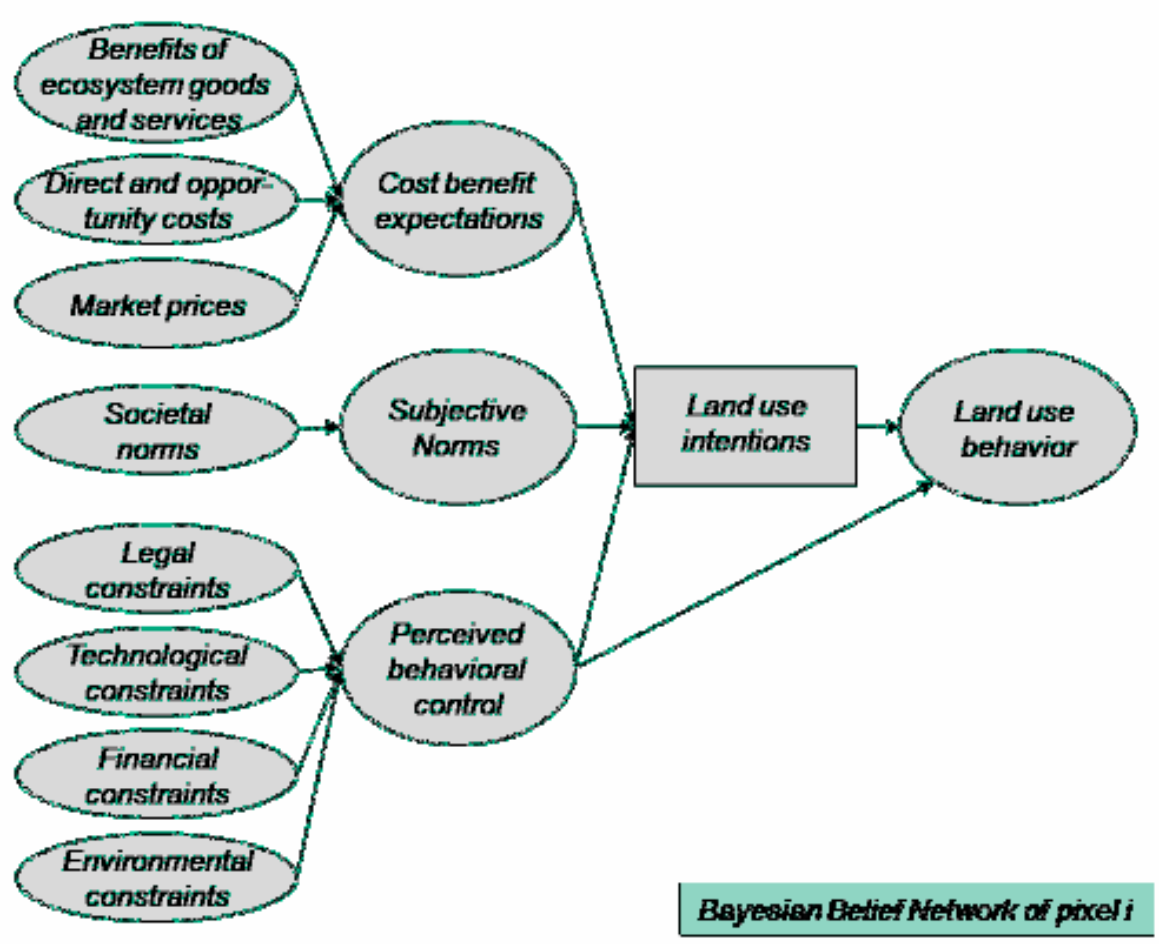
Analyzing human behavior

→ Theory of planned behavior (Ajzen, 1991)



1. Analyzing land-use behavior

→ adapted from 'Theory of planned behavior' (Ajzen, 1991)



1. Analyzing land-use behavior

(cont.) → exemplary questions

<u>General questions:</u>

- Do you live in Haean?
- Do you own the land you are cultivating?
- Which crops did you implement last year, which ones this year?

1. Analyzing land-use behavior

(cont.) → exemplary questions

'Ajzen' questions:

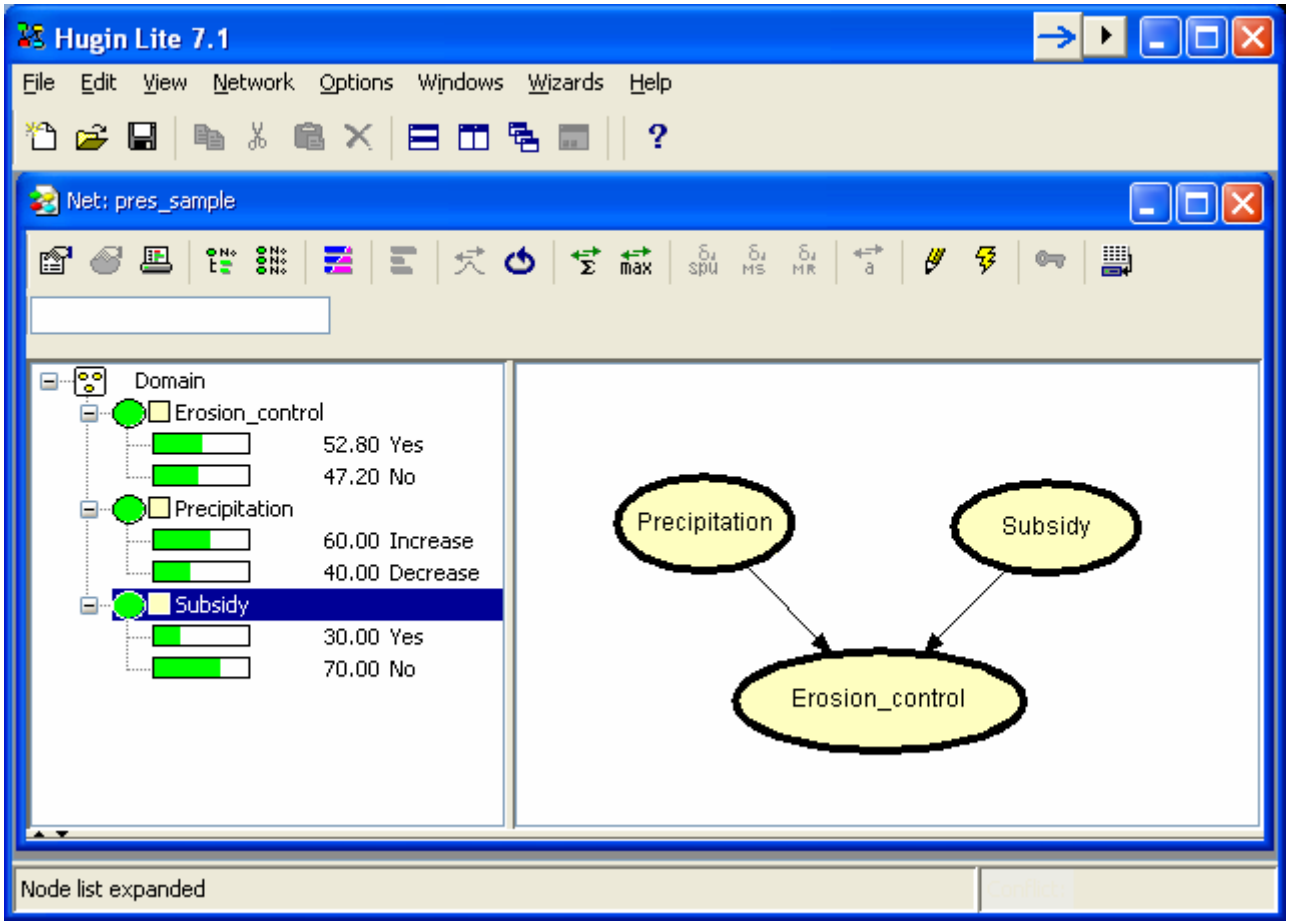
Not at all ↔ Very much

- When choosing my land use for the next season I try to…
  - …maximize my annual monetary return by adapting to current market prices ☐☐☐☐☐
  - … ensure a moderate, yet stable monetary return that I can rely on ☐☐☐☐☐
  - … make a future investment that pays off in the long run ☐☐☐☐☐
  - … minimize the negative effects on the environment ☐☐☐☐☐

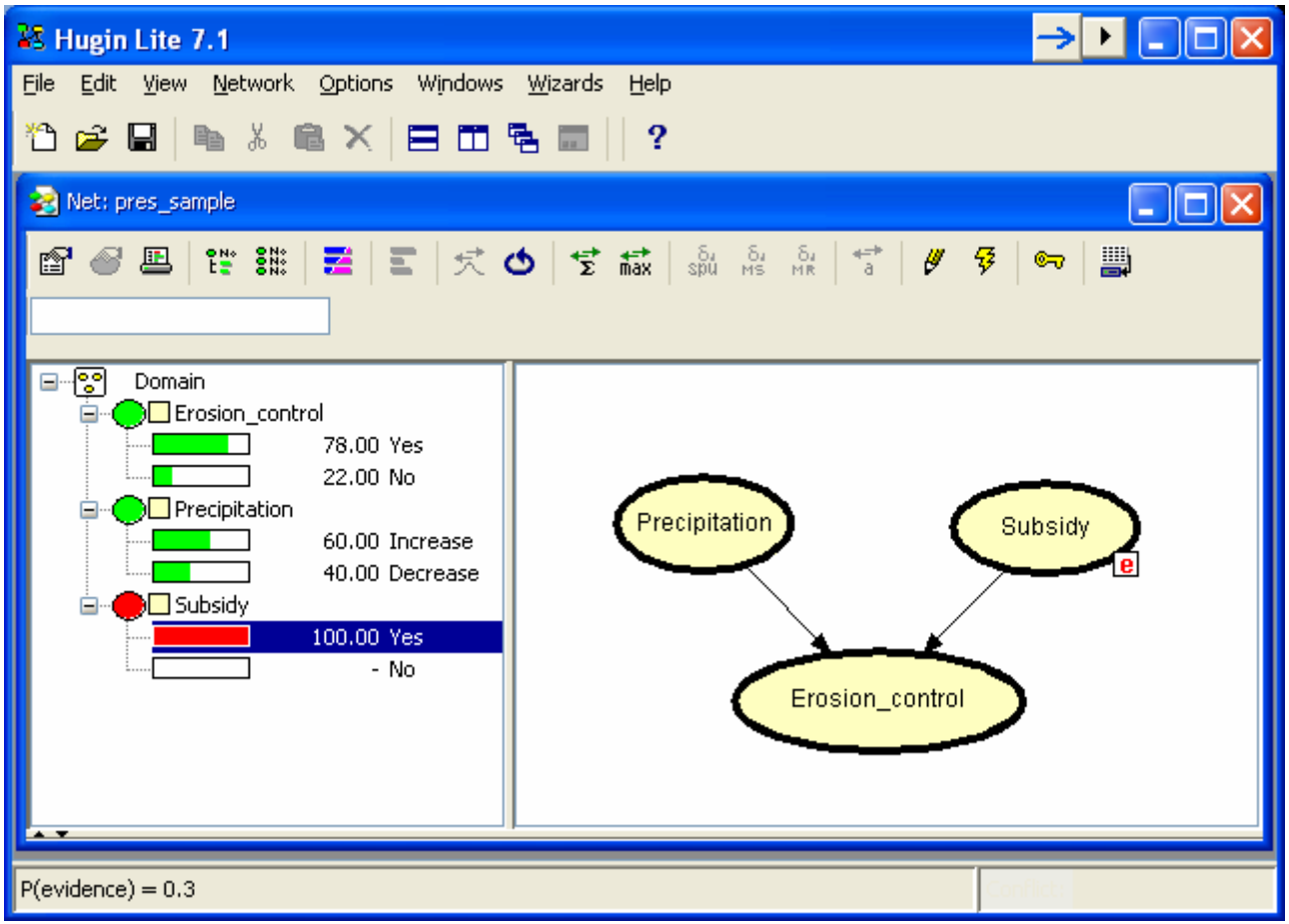
Very bad ↔ Very good

- I think that…
  - …maximizing annual monetary returns by adapting to current market prices is ☐☐☐☐☐
  - … ensuring a moderate, yet stable monetary return that is reliable is ☐☐☐☐☐
  - … making future investments that pay off in the long run is ☐☐☐☐☐
  - … minimizing the negative effects on the environment is ☐☐☐☐☐

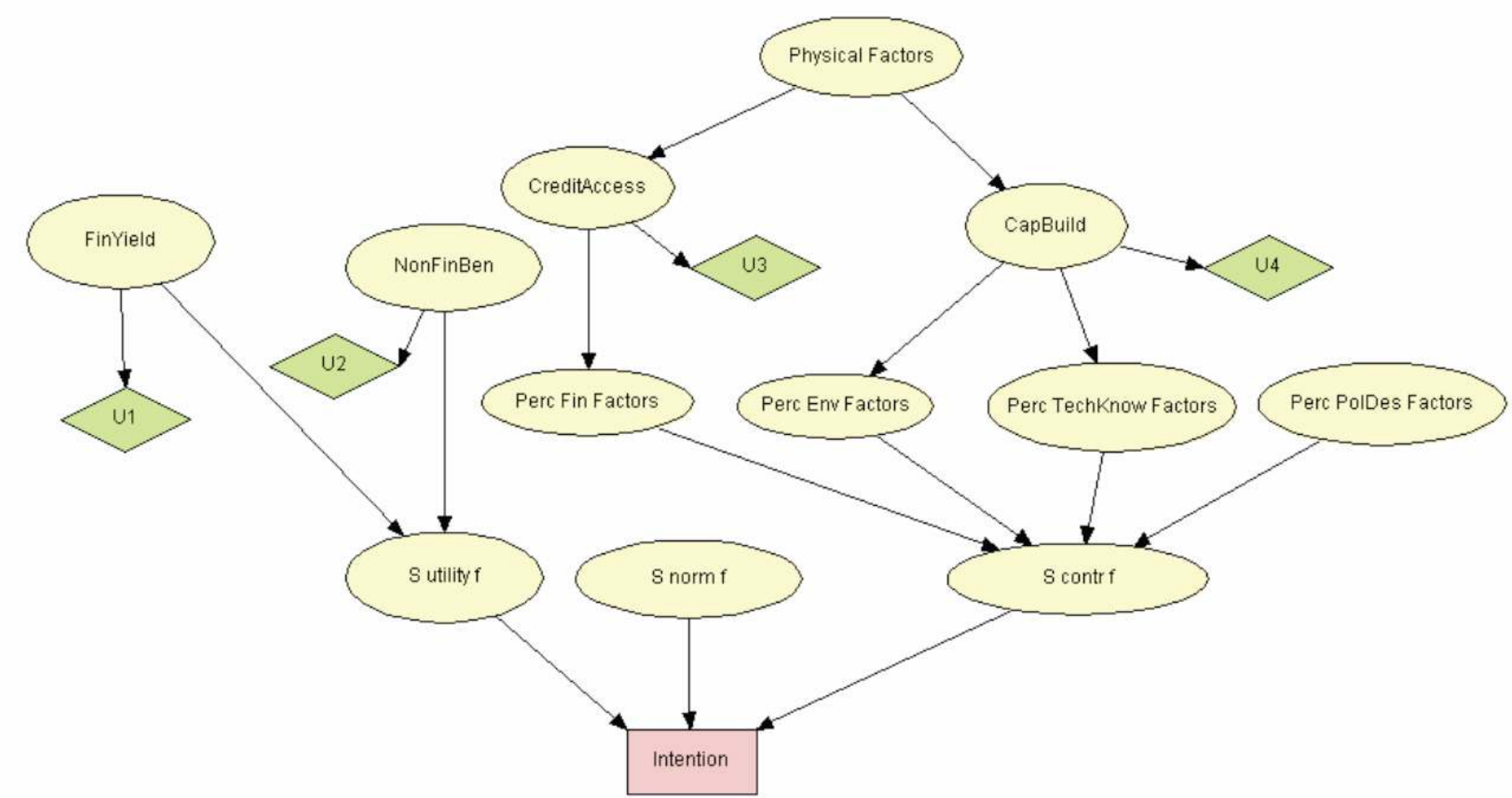
2. Impact of land-use decisions on Ecosystem Services



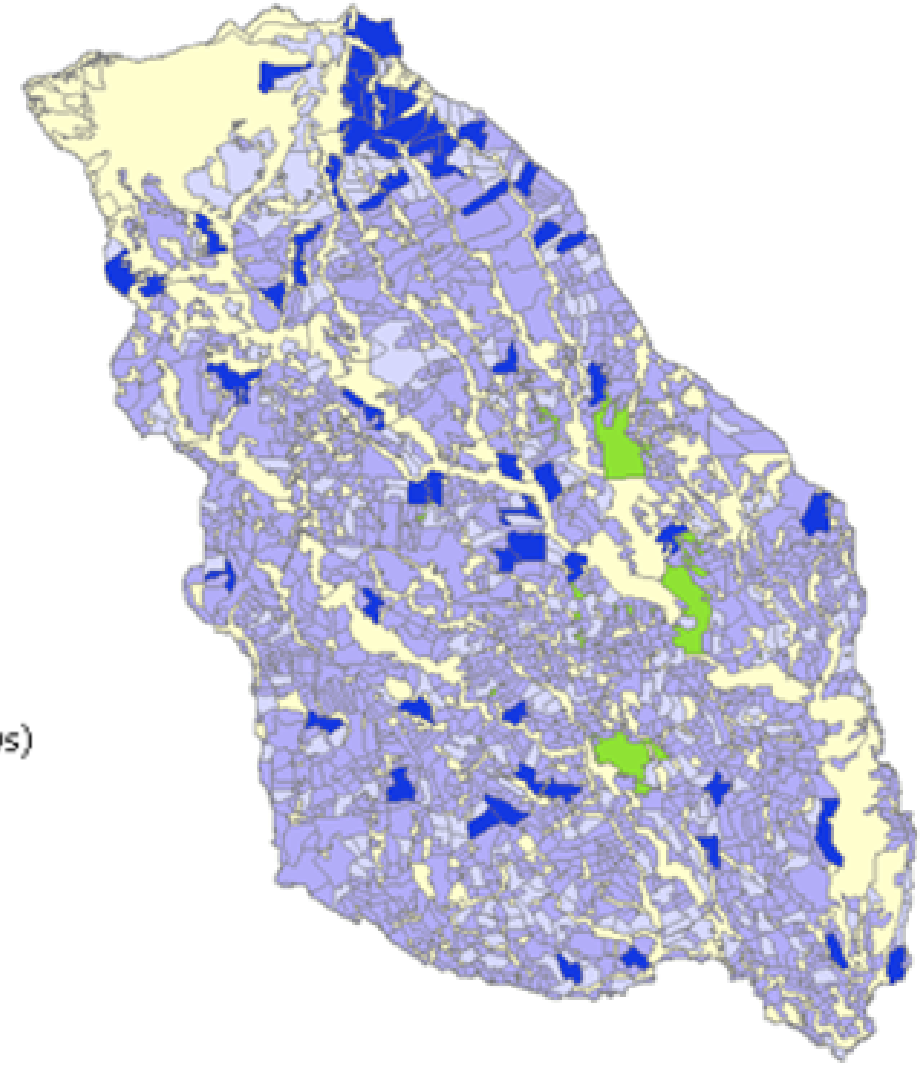
2. Impact of land-use decisions on Ecosystem Services (cont.)



2. Impact of land-use decisions on Ecosystem Services (cont.)



3. Spatially-explicit land-use model



Project integration