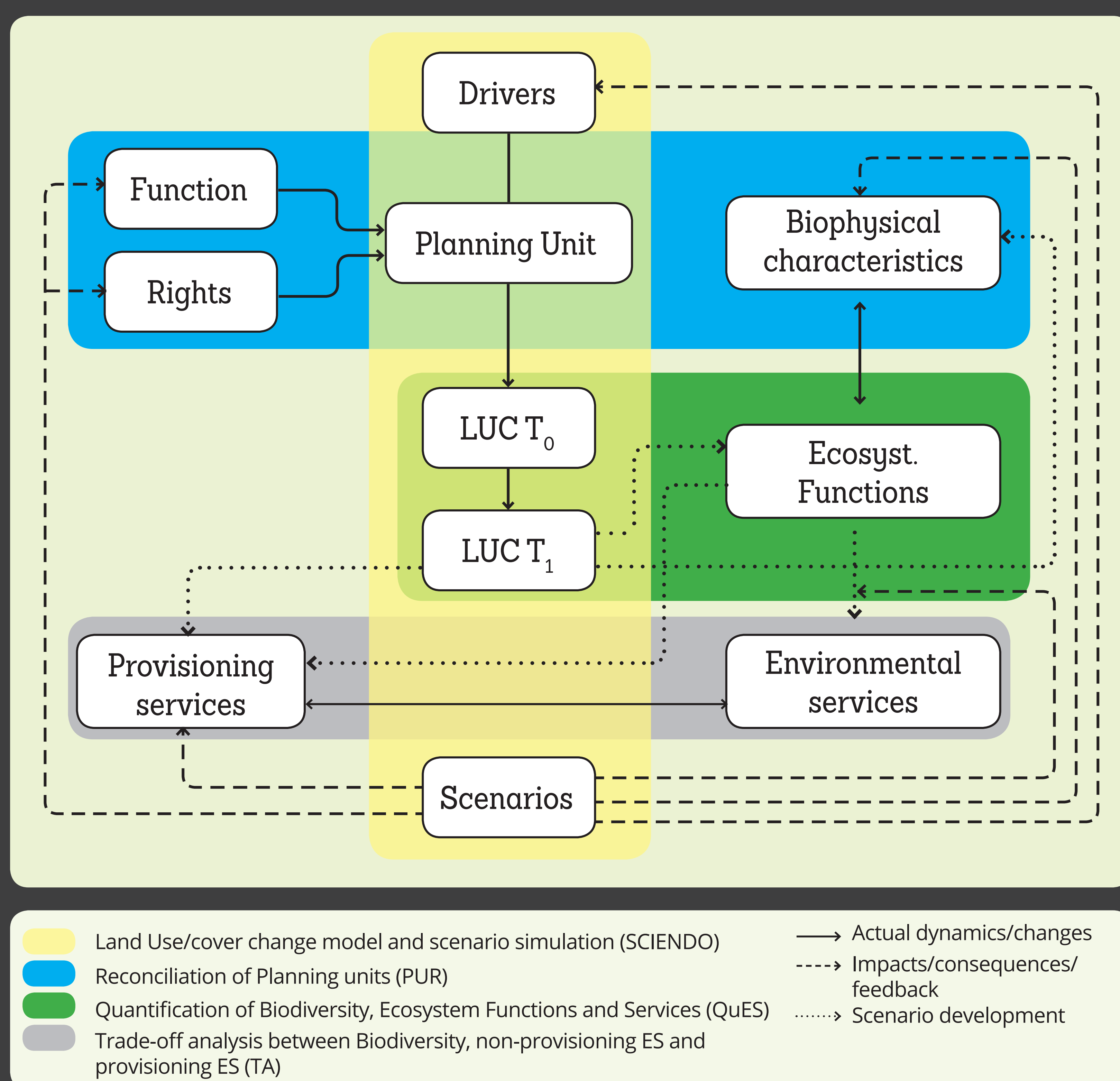


LAND-USE PLANNING FOR MULTIPLE ENVIRONMENTAL SERVICES (LUMENS)

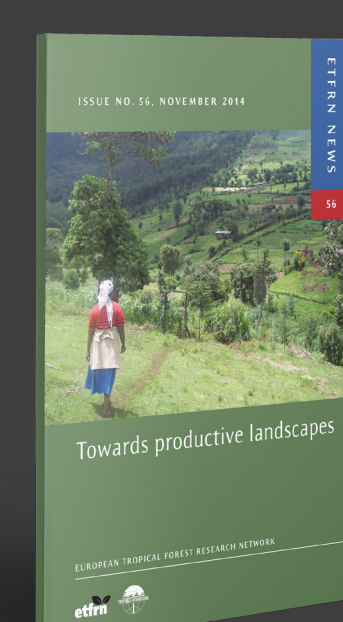
Lumens is a land-use planning method and tool to help communities, governments and businesses create plans for sustainable landscapes, it

1. Quantifies the environmental services provided by a landscape
2. Analyses trade-offs between sources of rural incomes
3. Simulates scenarios of land-use changes based on location-specific drivers



LUMENS

- Was specifically developed to empower multi-stakeholder negotiations for planning sustainable landscapes that can support livelihoods and development while maintaining and restoring environmental services, especially in tropical countries
- Is a framework based on user-friendly, parsimonious and publicly available software
- Supports inclusive, integrated and informed negotiations about land use
- Is a spatially-explicit, semi-agent-based model that accommodates a broad range of scenarios
- Require minimal input data, recognizing the scarcity of reliable data in developing countries



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THE EIGHT STEPS

1. Development of planning units, or zones, that reconcile socio-economic conditions
2. Driver analysis and spatially-explicit modelling of historical land-use and land-cover changes with respect to the planning units
3. Quantification of biodiversity and environmental services of land use and cover and their changes
4. Creation of a baseline scenario of future land-use and land-cover changes and projection of environmental services' delivery
5. Creation of scenarios to change the business-as-usual trajectory towards either greener development, more aggressive and expansive development, or others
6. Projection of future land-use and land-cover changes with quantification of biodiversity and environmental services
7. Analysis of trade-offs between biodiversity and provisioning and non-provisioning environmental services from the multiple scenarios
8. Formulation of action plans to implement the agreed scenario