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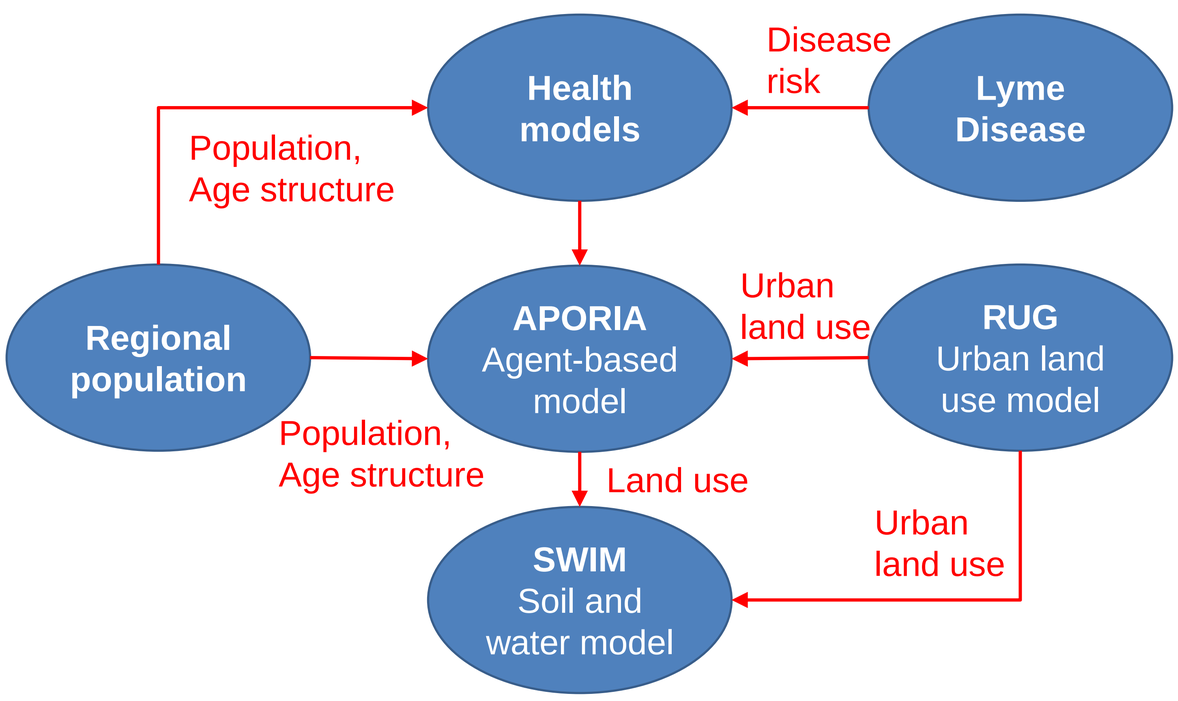
HUNGARIAN CASE STUDY

Aim: To work with decision-makers to assess the impacts, risks, vulnerability and adaptation options associated with high-end climate and socio-economic scenarios at the local and regional scale in Hungary, including interactions between key sectors.

Theme: Assessing the risks to agricultural and water management, urban development, human health and well-being in two medium-sized communities, Szekszárd and Veszprém, and combining participatory methods with quantitative analysis to explore robust locally relevant adaptation options that are in line with shared visions of a sustainable future.

Methods

- Development of an agent-based model (APORIA) for two regional centres in Hungary to simulate how local stakeholders and institutions interact to determine patterns of rural land use and food production under high-end climate and socio-economic scenarios.
- Application of integrated models to study the impacts of high-end scenarios on urban land use, food supply and human health (Lyme disease and heat stress).
- Use of participatory methods with key local community stakeholders and the national-level Alliance of Climate Friendly Municipalities to develop shared visions for a sustainable future and pathways of harmonised adaptation and mitigation actions for achieving the vision.



Main outcomes

- A set of integrated high-end climate and socio-economic scenarios for Hungary, taking boundary conditions from the European level case study.
- A new participatory modelling approach to identify and map vulnerability hotspots associated with high-end scenarios, such as areas of critical infrastructure or locations with many vulnerable people (e.g. the elderly).
- A new model to quantify the impacts of heat stress on human health, and assess adaptation options, e.g. air conditioning or housing interventions, including estimation of uncertainties.
- Assessment of the ability of existing development and sector strategies and adaptation plans for the two communities to reduce vulnerability by lowering exposure and increasing resilience.
- Assessment of the potential for adaptive governance, e.g. self-organising networks, to address both short-term emergencies and longer-term climate risk.
- Contribution of this case study to the central IMPRESSIONS knowledge network and Information Hub.

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