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System Dynamics Modelling applied to Regional Foresight

The PoliRural project is pioneering the application of System Dynamics Modelling (SDM) to regional Foresight. Several experiments related to the application of SDM in the 12 regional Foresight exercises of the PoliRural project are now underway, and some preliminary results can already be announced.

One of the most important results so far is the development of a general System Dynamics model for rural regions, based on 8 interconnected modules containing over 300 parameters. This has been adapted to needs of each region, based on discussions with the 12 regional Foresight leadership teams.

An online interface has been created for each model. These are made up of 3 layers, allowing users to explore the impact of different policy scenarios on various aspects of the performance of their region. The first layer features a limited set of model parameters that reflect the performance of the system (KPIs). The second layer consists of parameters that reflect the internal workings of the system. The third layer is made up of model parameters that can be used to define different policy scenarios. In this way, the user is presented with a simple interactive 'window' on the model, which allows them to explore the impact of different policy choices and scenarios over time, as measured by the KPIs.

The basic goal of SDM work in PoliRural is to explore where and how SDM can add tangible value to regional planning and foresight analysis for rural areas. Initial results point to the usefulness of this approach. Currently, the PoliRural consortium is capturing as much feedback as possible from these experiments, to get a deeper understanding of the potential for the use of SDM in regional Foresight and formulate improvements for the future.

