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AGENT-BASED SUPPORT TOOL FOR THE DEVELOPMENT OF AGRICULTURE POLICIES

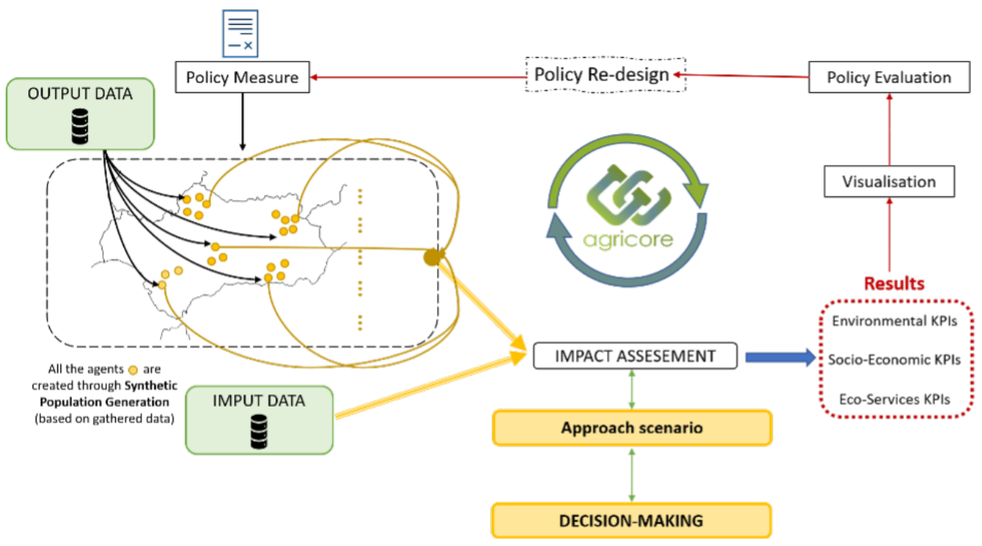
agricore

SCOPE

The design of evidence-based and transparent agricultural policies which will incorporate all objectives of the CAP is a long process involving the assessment of various local and global parameters. Therefore, the EC has identified the need for better policy design. Agricultural models are needed to describe and interpret key aspects of agricultural policy design. The most widely used models up to date compute the equilibrium between aggregate production and aggregate demand to calculate the impact on farmers' profitability and the price paid by consumers. The problem with this type of models is that, when aggregating, they do not take into account the heterogeneity of European farms, so that some measures that are shown to be beneficial at the aggregate level in the model, may be harmful at the particular level for some types of producers or particular regions. The AGRICORE project aims to offer a solution.

OBJECTIVES

The AGRICORE project is an EC funded research project which will make use of state-of-the-art computational technology advancements and agent-based modelling techniques for the design of agricultural models. This model will allow new extended capabilities to capture farm heterogeneity, to address a finer geographical scale and to assess the effects of CAP in a systematic and efficient way.
The goal is to improve the capacity to design new policies, incorporate assessment instruments for the social, economic, and environmental impacts of those new policies, and be able to do so in various geographical scales: from regional to global scale.



RESULTS

• Based on our methodology and set of ontologies for data characterization, the Agricultural Research Data Index Tool (ARDIT) has been developed serving as a central entry point for locating useful datasets useful for agricultural research.
• A Data Warehouse for agriculture policy impact assessment data management has been developed as a fundamental component for the storage, processing, and exchange of data.
• The data extraction module has been developed, for the location, extraction, and storage of all types of data necessary for the use of the different tools and modules.
• The data fusion module has been developed, for the integration and blending of individual datasets to constitute enriched datasets that are used for the operation of the different AGRICORE modules.
• Several modules have been developed which will feed the AGRICORE model: The land market module, the market module, the environmental and climate IAM, the ecosystem services IAM and the Policy Environment Module [ ].
• The AGRICORE model has been tested in 3 different use cases (Andalusia, Poland and Greece) by making predictions before policies are implemented (ex-ante analysis) evaluating the policies' impact after their implementation (ex-post analysis).

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