

## SUPREMA Policy Brief 2

### RoadMap - exploring future directions for agricultural modelling in the EU

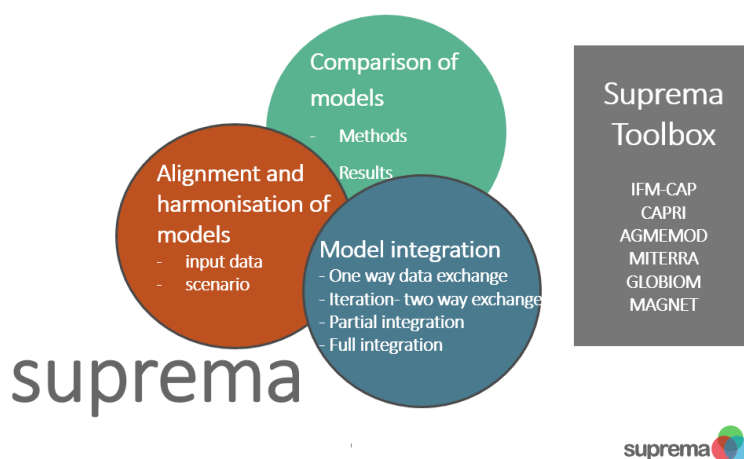
#### Recommendations

Based on the assessment in the SUPREMA project with respect to the future policy needs and the strengths and weaknesses of agricultural models of the SUPREMA toolbox that were considered in our research, the following recommendations are made:

1. The current and upcoming agricultural policy framework and the notion of ‘food system approach’ as an overarching framework that covers the food market from a broad perspective by incurring all actors from farmers via value chains to consumers, comprising all pillars of sustainability and considering all dimensions of SDGs require an EU’s modelling strategy in which integrated model use gets a more prominent place.
2. The increased emphasis on sustainability, while maintaining the income perspective of farmers, requires that an increased attention has to be paid to the integrated use of environmental and economic modelling approaches to ensure coherence and consistency in the approach with a complex reality. It becomes increasingly unlikely that all these aspects can be in a satisfactory way integrated into one or a few models.
3. A drawback from a ‘control’-perspective might be that the attractive option of having a few ‘recognized’ models with an EU wide spatial coverage and a comprehensive coverage of issues and themes is no longer the only best option. There are two ‘answers’ to this:
  - a. Firstly, the EU is already supporting several key models in different domains (economic-policy, environment, and climate) and it is a challenge to let them better work together. Additional investments will be necessary into model assembling and in the types of linkages that can be used. In the process of linkage-development, special attention needs to be paid to circularity issues, which are so far only addressed to a limited extend.
  - b. Secondly, large scale models can never reach the degree of refinement regarding policy representation, spatial granularity and behavioural responses (e.g. innovation adoption) that is needed for delivering support to EU and national policy makers. They require reflecting the indicated future priorities and the subsidiarity with respect to policy implementation and modality options that are planned to be given to Member States. More effort and support on refined and more ‘localized’ models (e.g. EDM-models) are welcomed and also more pluralistic approaches (e.g. agent-based modelling).
4. In order to get further insights into the impact of policy measures at farm level, more emphasis should be put on understanding and modelling individual farm decision making.
5. In the context of both actual economic developments as well as from the perspective of a food systems policy approach, food supply chain modelling needs more attention. Without this a number of insights that are crucial for effective policy making may be missed. It is still an issue how to best approach this, although starting from case studies that concentrates on key sectors seems a good idea.

6. With respect to trade modelling a focus on the role of standards and non-tariff measures continues to be important, while the increased attention for 'functional trade' and 'fair trade' has to be pursued. Level playing field corrections that account for maybe diverging EU and non-EU standards and requirements with respect to agricultural production and food processing call for more insight into global value chains and trade linked sustainability indicators.
7. Quality control, model (cross) validation, transparency, data management, research networks are crucial and become of growing importance when more models and a plurality in modelling approaches are allowed for. The EU's role for providing services and platform-function has been recognized in the past and needs to be strengthened for the future.
8. More generally, it is welcomed to have more academic publications on models, model applications and modelling results and maybe this also justifies a specialized journal as the standard disciplinary journals sometimes lack sufficient openness to such publications.

Finally, there is a need for a SUPREMA governance structure to guide long-term model developments, identify new potential interesting models, preserve and build stable bridges between models, integrate models and enable better policy research related to the Green deal and farm to Fork strategy with a broad coverage of objectives and SDGs. The SUPREMA Network will be launched in 2020 (see, figure below).



Source: Authors'.

Figure. Upcoming SUPREMA network

## References

Jongeneel, R., Gonzalez-Martinez, A., Lesschen, J.P., van Meijl, H., Heckeley, T., Salamon, P., (2020) Deliverable 1.10 The SUPREMA Roadmap exploring future directions for agricultural modelling in the EU. Project Support for Policy Relevant Modelling of Agriculture (SUPREMA). Online: <https://www.suprema-project.eu>.