

ENHANCING AGRICULTURAL VALUE CHAINS THROUGH AGENT-BASED MODELLING

WHAT ARE AGENT-BASED MODELING TOOLS?

Agent-based modeling (ABM) tools are computer simulations that help us understand how individual people, or groups behave and interact in a system. Each agent follows simple rules, and by observing how they interact, we can see how big patterns or changes happen over time.



Agent-Based Modeling (ABM) tools have the power to **revolutionize agriculture**. This technique provides valuable insights that can improve how farmers and end-users operate on a daily basis.



HOW ABM BENEFITS US

ABM's influence on value chains can offer crucial **recommendations for policy and market changes**, leading to shifts in practices and development processes.

DATA STANDARDIZATION AND INTERACTION IN ABM

DATA AND INTERACTION

- ABM relies on **data** from various sources throughout the value chain.
- To make this work, it's important to **standardize data formats** and **streamline interactions**, possibly through **ontologies**.

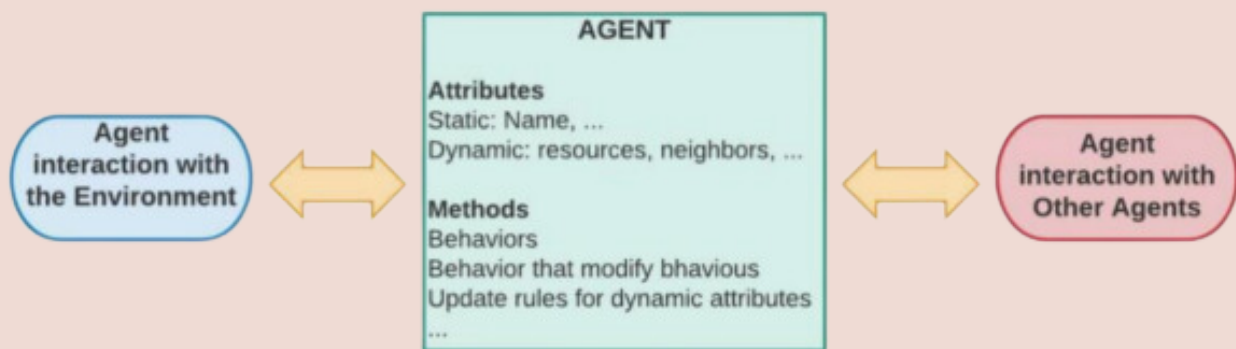
CONNECTION TO MARKET

In BioValue's framework, we consider both value chains and markets. Markets have a big impact on how agents behave.

ABM incorporates **demand-related factors** to make market recommendations, which in turn influence the decisions of everyone in the value chain.

INTERACTION ARENAS OF AGENTS

Agents in ABM interact in two key areas: with other agents across and within value chain segments, and with the broader environment, which includes economic, natural, and societal factors.



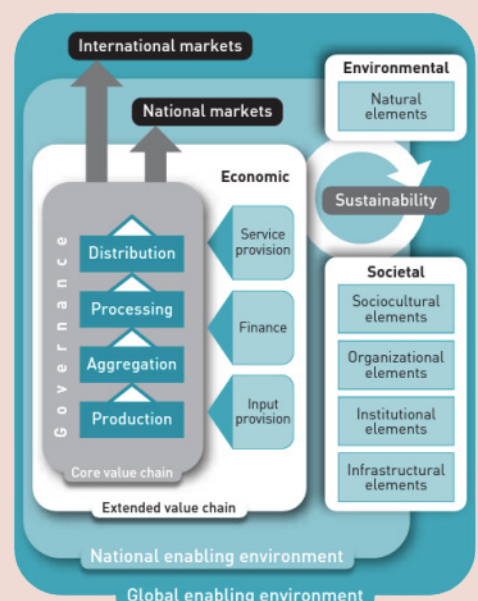
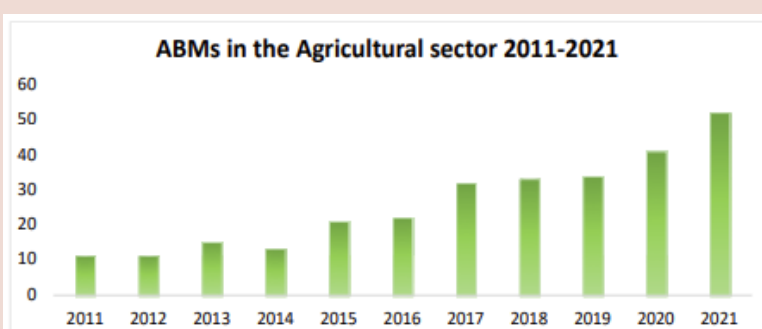
PRECTICAL BENEFITS

ABM's results empower stakeholders. It guides choices, determining the feasibility of new products and understanding how policies affect markets.

That is why there has been a great rise observed in applying ABM practices in the agricultural sector.

ENTREPRENEURIAL EDGE

ABM can lead to cost-effectiveness, productivity, and informed choices, underlining practical relevance and profit potential.



[Find the whole analysis HERE](#)

