

# Inventory of Methods and Tools Bérénice Dupeux (Ecorys)

### *April 2025 Inventory of methods and tools*

Tools4CAP has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No. 101086311. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.



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### **Purpose:**



- Aim: To create a comprehensive inventory of existing methods and tools used in the design and implementation of CAP Strategic Plans in Member States.
- Knowledge Transfer: Support the transfer of knowledge, skills, and capabilities to end users across Member States.

### Output:

- Inventory of Methods and Tools Report: Published in September 2023.
- Online Inventory of Methods and Tools: Accessible to stakeholders via the Tools4CAP project website.
- Continuous Monitoring and Updates: Includes continuous monitoring for new methods and tools, with next scheduled updates in December 2026.

### **Categorisation of methods and tools**

## Stakeholder needs assessment tools

Stakeholder needs assessment tools are tools based on qualitative methodologies that enable the involvement of multiple actors in the decision-making process.

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## Policy choices supporting tools

This category of tools encompasses tools based on different methodological approaches, but which have been developed in response to rapidly changing policy goals and instruments, and where data might be lacking or where no prior knowledge exists. They are based on logical solutions and facilitate decision making process.

Policy analysis tools for evidence-based decisions

These tools serve for generating (scientific or empirical) evidence through the analysis of policies, either ex-ante or ex-post, to inform decision-making, hence underpinning evidencebased policymaking.

## Monitoring and data collection tools

These tools provide the necessary information for the realisation of the annual performance report, reporting both qualitative and quantitative information on the implementation of the CAP Strategic Plan by reference to financial data and to output and result indicators, including at regional level where relevant.





## **Overview of methods and tools:**

89 Tools collected across all MS



TOOLS

### Links to CSP Design and Monitoring Tasks





### **Use of modelling tools**



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## **MODELLING TOOLS FOR EX-POST EVALUATION**



## Why using modelling tools?

- Provide quantitative indicators of the baseline
- Provide quantitative information on flows (trade but also possibly other flows) at different scales, commodity production, consumption, and prices, along with economic indicators like GDP and employment and environmental indicators like nutrient pressure.
- Often, such tools are multi-dimensional consistent with each other and the existing databases, allowing a qualitative assessment of the different assumptions made and results.
- Allows dynamic systems where many intertwined factors about the evaluated policy are being targeted to affect outcomes in numerous ways
- Modelling allows to connect different modelling modules
- It's rarely used on its own: restricting evaluation to a single method will not capture the complexity of the system we are operating in.

## **MODELLING TOOLS FOR EX-POST EVALUATION**

### What indicators can you model?

# Economic indicators

- Farm level models effectively cover farm income indicators, but risk management integration remains a challenge.
- Modelling competitiveness is well covered while investment support and asset renewal modelling need improvement.
- Farmers' position in value chains is only partially covered, with ongoing efforts to model organic output and forward pricing.

#### Environmental indicators

- Climate mitigation measures are well-covered while renewable energy at farm level remains a gap.
- Soil management is addressed by very few models.
- **Biodiversity indicators** require better data integration and enhanced modelling capabilities.

#### Social and rural indicators

TOOLS

- Addressing structural change, rural poverty, and job growth remains difficult due to the lack of relevant data in sectoral models.
- Health and food safety indicators are emerging but constrained by data availability.

## **FARM INCOME INDICATORS**



Models	1. Ensuring Viable Farm Incomes					
	Farm income	Income Volatility	Use of Risk Management Tools	Redistribution between farm types		
Models identified for case studies						
Model 1. Joint models chain:						
Farm-Dyn, AGMEMOD,						
Eco-scheme Farm simulation tool (NL)						
Model 2. CAPRI						
Model 3. SiTFarm model						
Model 4. Experimental evaluation methods						
Model 5. GLOBIOM-CZE						
Other models included in inventory of Task 2.1						
MAGNET						
MITERRA						
FAPRI Ireland Model						
FARMIS (DE)						
IFM-CAP						
KOBALAMI (NL)						

Source: Tools4CAP 2024 (red = "impossible or very costly"; orange = "expensive or challenging extension"; light green = "feasible, straightforward extension"; green = "already covered")

## **COMPETITIVENESS INDICATORS**



Models	2. Increasing Competitiveness (Productivity)				
	Market shares	Age of Asset	Technology Adoption	Investment support	
Models identified for case studies					
Model 1. Joint models chain:					
Farm-Dyn, AGMEMOD,					
Eco-scheme Farm simulation tool (NL)					
Model 2. CAPRI					
Model 3. SiTFarm model					
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## **CLIMATE MITIGATION**



Models		4. Agriculture and Climate Mitigation					
	Farm GHGs	GHGs per ha	Carbon Sequestration	Ammonia emissions per farm	Farm ammonia per ha	Renewable Energy per farn	
Models identified for case studies							
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## **MODELLING TOOLS FOR EX-POST EVALUATION**

### Who can do modelling?

 All tools are currently maintained, developed, and applied by research institutes TOOLS

- This requires long-term investment to sustain and align the development of tools with policy changes
- Some MS developed a "culture" in establishing relationships with the modelling community
- Capacity, awareness training on tools capability and use need to be further strengthened

### **Category Complementarity**



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#### **Online Inventory of Methods and Tools**





#### SiTFarm tool (Slovenian typical farm model tool)

#### Rationale of use

The SiTFarm tool stands out as the singular tool in Slovenia designed for nuanced analyses at various agricultural levels, ranging from individual agricultural holdings to broader sectors. Given its robust capability to perform multilevel analyses and connect with other models, it serves as an invaluable asset for in-depth agricultural study

#### Functioning

The tool facilitates scenario analyses of different measures' potential impacts at varying agricultural levels. It examines direct payments, evaluates voluntary measure uptakes, and integrates a methodological approach rooted in mathematical programming. Primarily, it centers its analytical focus on the production plan. The tool includes 145 typical agricultural holdings (model farms), which are representative for a larger number of actual farms. It combines a complex system of model calculations of the Agricultural Institute of Slovenia, which is a rich source of economic data in particular, as well as technological data and functions for production activities that enter into the production plan at the farm level. The focus was on measures of the first pillar DP (coupled and decoupled), SOPO measures and also LFA measures. Different conditions, payment amounts, thresholds, envelope distribution ratios etc, were also tested. The tool was used for scenario analysis of various variants of interventions during the preparation of the strategic plan.

#### Types of outputs

Outputs encompass a myriad of indicators - economic (e.g. revenues, budget support, variable costs, gross margin), technological (e.g. intensity of cultivation, the scale of production and processing, the amount of the necessary labour by individual work phases, the utilisation of cultivated areas ), and environmental (e.g. carbon footprint, use of phytopharmaceuticals, fuel consumption per unit of production, use of mineral fertilisers). These indicators offer insights for individual farms, as well as groups of farms and the entire aggregate.

#### Relevant CAP objective

The tool is used to address predominantly CAP objective of fair farm income seaching for scenario with more equal gross margin per unit of labour engaged comparing different sectors.

#### Sources

https://repozitorij.uni-lj.si/IzpisGradiva.php?id=135226, https://repozitorij.unilj.si/IzpisGradiva.php?id=135226

http://ojs.aas.bf.uni-lj.si/index.php/AAS/article/view/2116/496, http://www.dlib.si/details/URN:NBN:SI:DOC-IDZPTR6S

#### Tool name SiTFarm tool (Slovenian typical farm model tool)

Policy analysis tools for evidence-based decisions

Subcategory Simulation models

Category

MS Slovenia

#### Author or owner

Owner: Biotechnical faculty University of Ljubljana (UL), Chair for agricultural policy, economics and law (prof. Jaka Žgajnar)

Implemented by

#### Relevant tasks

CSP Design: Financial Allocations CSP Design: Intervention Setting

### **Inventory of Methods and Tools Report**

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SEPTEMBER 2023

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