TRADE4SD
Fostering the positive linkages between trade and sustainable development

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Deliverable 6.2: Operational visualisation training tool

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About TRADE4SD Project

Trade is a central factor in shaping not only global, but also regional and local development. Trade policy has an especially important part to play in achieving the UN Sustainable Development Goals (SDGs). The premise of the TRADE4SD project is that trade has the power to produce positive outcomes when the policies which define the rules of the game are framed and designed in a way to promote access to markets, fair prices and standards of living for farmers, as well as alleviating rural poverty and ensuring sustainable farming practices. Addressing the relation between trade and SDGs requires an integrated approach to policy-making and inclusive governance.

The main objective of the TRADE4SD project is to contribute to build new opportunities for fostering the positive sustainability impacts of trade supported by improved design and framing of trade policy at national, EU and global level, including WTO modernisation, increased policy coherence at different domains including agricultural, energy, climate, environmental and nutritional policies.

To meet this objective, the project will develop an integrated and systematic approach that combines quantitative models from different perspectives, and several qualitative methods recognising that SDGs and trade are highly context-related. On the one hand, a robust analysis of economic, social and environmental impacts is given by using diverse but integrated modelling techniques and qualitative case studies. On the other hand, a wide consultation process is implemented involving stakeholders both in the EU and in partner countries as well as those with a wide international scope of activity, providing opportunities for improved understanding, human capital building, knowledge transfer and dissemination of results. To this extent, the consortium involves, as co-producers of knowledge, a number of research and stakeholder participants with different backgrounds who will use their networks to facilitate the civil society dialogue and build consensus on the subject of gains from trade in view of sustainability.

Project Consortium

No.	Participant Organisation Name	Country
1	Corvinus University of Budapest (CORVINUS)	HU
2	University of Kent (UNIKENT)	UK
3	Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria (CREA)	IT
4	Johann Heinrich von Thünen-Institut, Bundesforschungsinstitut für ländliche Räume, Wald und Fischerei (THUENEN)	DE
5	The University of Sussex (UOS)	UK
6	University of Ghana (UG)	GH
7	Luonnonvarakeskus (LUKE)	FI
8	Centrum Analiz Spoleczno-Ekonomicznych-Fundacja Naukowa (CASE)	PL
9	Food and Agriculture Organization of the United Nations (FAO)	IT
10	Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE)	FR
11	Confederazione Generale Dell'Agricoltura Italiana (CONFAGRICOLTURA)	IT
12	Truong Dai Hoc Kinh Te Thanh Pho Ho Chi Minh (UEH)	VN
13	Luminaconsult Sprl (LUMINA)	BE

Table of Contents

1. Introduction

The Trade4SD project emphasizes the integration of sustainability standards into trade policies and their implications for welfare and distributional outcomes. Deliverable D6.2 describes the development of a web-based tool that visualizes the outcomes from results conducted under Work Package 3 (WP3). The tool is designed to enhance understanding of how changes to key variables affect the results, thus facilitating informed decision-making among stakeholders.

This deliverable focuses on the visual representation of outcomes derived from the AGMEMOD partial-equilibrium model. Specifically, it presents the results of the reference scenario while outlining the plan to integrate modules that allow for comparison with various counterfactual scenarios.

2 Objectives and Scope

The main objectives of the web-based visualization tool are:

1. Clarity and Accessibility: To present complex modeling results in a format that is easy to understand and interpret by non-expert users.
2. Scenario Exploration: To enable users to explore how modifications to key variables, such as the change in import tariffs and other trade-policy measures, affect agri-food production and consumption.
3. Comparison Capabilities: To provide a mechanism for comparing reference and counterfactual scenarios, thereby highlighting trade-offs and policy implications.

The scope of this deliverable includes the initial visualization of reference scenario outcomes from AGMEMOD and plans for future expansions.

3 Methodology and Features

The development of the visualization tool was guided by the following principles:

Data Integration from WP3

- The tool builds on the results from WP3, where the AGMEMOD model is employed to simulate trade and EU agricultural policy scenarios. AGMEMOD, a partial-equilibrium model, offers detailed insights into market dynamicsand with the newly developed trade model extension of AGMEMOD (compare D3.4) the implications on international trade in agricultural and food products.

User-Friendly Design

The tool incorporates intuitive graphical interfaces that allow users to:

- Visualize and download key indicators, such as changes in production, land use, consumption, prices and trade for the main agricultural products produced in the EU and all EU Member State countries.
- Comparison of key indicators between countries and products
- Understand baseline projection up to 2032

Dynamic Interactivity

Interactive elements enable users to:

- Select variables to be displayed and compared
- Adjust variables, such as trade or land-use restrictions.
- Observe real-time updates in model outcomes, fostering a hands-on learning experience.

Scenario Visualization

The current version visualizes the reference scenario. Future updates will include a comparative module, enabling users to:

- Contrast reference outcomes with counterfactual scenarios (e.g., different EU agricultural and trade policy configurations).
- Analyze trade-offs and policy implications in a structured manner.

4 Main Findings and Implications

Initial Visualizations

The tool demonstrates how the outcomes of the AGMEMOD model can be represented in a self-explanatory manner. For example:

- Initial situation of domestic and international agri-food markets and its development until 2032 under the reference scenario.

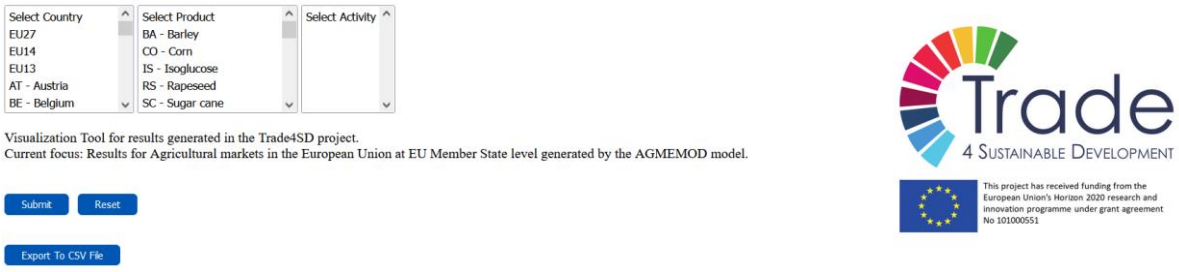

Figure 1: Selection of results to be displayed

On the web-based user platform, the scenario results for the countries (column 1), the products (column 2) and the respective variables (column 3) can be selected as shown in Figure 1. The results are displayed in the form of a graphic and a table.

The selected data can also be easily exported for further use by clicking the ‘Export to CSV file’ button.

Further, multiple countries and products can be selected simultaneously via the control key. The data is displayed when clicking the button “Submit”. Figure 2 shows the corn and wheat production of France and Germany for demonstration purposes. Additionally, the data is displayed below the graph in a table and can be downloaded via the button “Export To CSV File”.

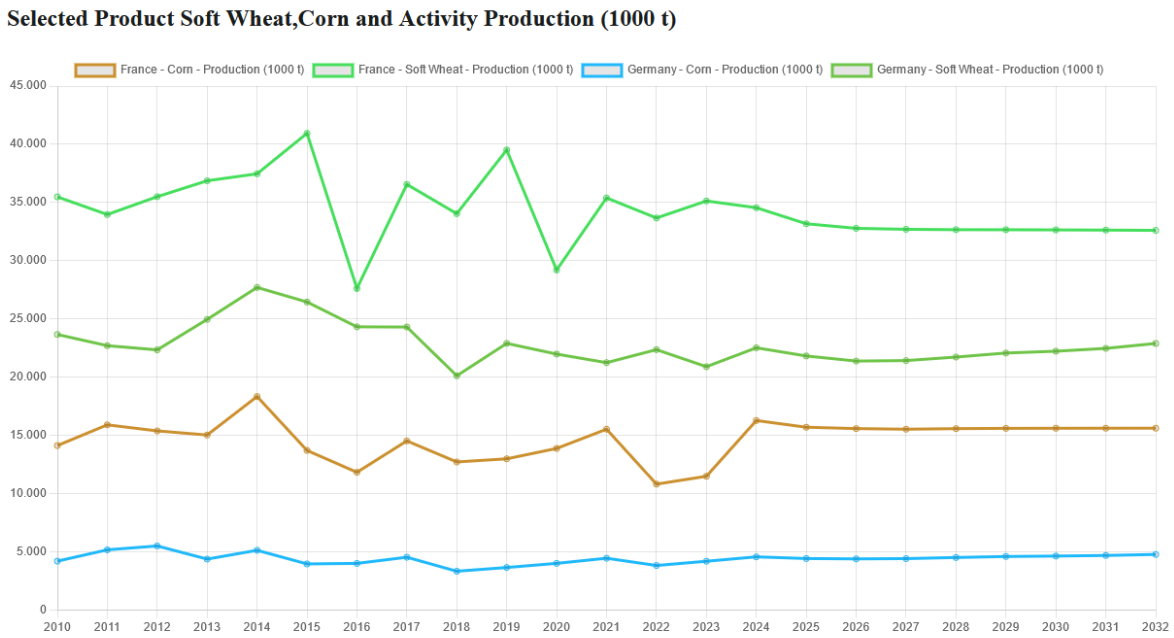

Figure 2: Display of results via graph

Online implementation

The data is publicly accessible to all interested users at the following link:

https://data.agmemod.eu/

Future Enhancements

The planned module for counterfactual scenarios will enhance the tool’s utility by:

- Allowing direct comparisons of policy impacts.
- Providing stakeholders with a clearer understanding of the trade-offs involved in policy choices.

5 Conclusion and Next Steps

The web-based visualization tool is a significant step toward democratizing access to complex modelling results. Its user-friendly design and interactive features make it an invaluable resource for stakeholders, including policymakers, researchers, and educators.
Next Steps:

- Module Development: Extend the tool to include counterfactual scenario comparisons.
- Stakeholder Feedback: Gather input from end-users to refine functionalities and improve usability.
- Integration: Collaborate with other work packages to incorporate additional data and insights.

By providing a clear, interactive, and accessible platform for visualizing AGMEMOD modelling outcomes, this deliverable contributes to the overarching goals of "Trade4SD" in promoting sustainable and equitable trade policies.