NOVASOIL

INNOVATIVE BUSINESS MODELS FOR SOIL HEALTH

Grant agreement ID: 101091268

Rueda (Spain)

This project has received funding from the European Union's HORIZON-AG - HORIZON Action Grant Budget-Based research and innovation programme under grant agreement GA 101091268

Project Consortium

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1 Background, focal question and needs

The case study on organic wine production in Rueda, Spain, explores how soil health can be maintained and improved within the context of ecological viticulture, focusing on the winery Herederos del Marqués de Riscal, S.A. (hereafter referred to as Riscal). This winery exclusively purchases organic grapes to produce two wine varieties: *Marqués de Riscal Organic* and *Marqués de Riscal Sauvignon Blanc Organic*. Grape producers are not associated but are integrated into the value chain through adherence to stringent quality standards and organic production protocols, with periodic controls on quality and residue levels. The challenge of sustaining organic wine production in Rueda aligns with EU environmental goals but faces constraints due to fluctuating financial support from the Common Agricultural Policy (CAP), climatic challenges like drought, and issues with labor availability. This setting underscores the criticality of both environmental resilience and economic stability within the value chain as it supports soil health and organic wine production (Barth, Ulvenblad, & Ulvenblad, 2017).

The focal question for the Rueda case study is: *How can sustainable business models be designed to enhance soil health in organic viticulture under challenging environmental and socio-economic conditions?* This question aims to examine strategies that would enable stakeholders to promote soil health while ensuring financial viability within the organic wine industry. Emphasis is placed on developing incentives for organic practices, improving resource availability, and strengthening the resilience of the wine production value chain (Shanahan, Jones, & Mcbeth, 2011) .

The pentagonal problem framework, as outlined by De Vicente Lopez and Matti (2016), structures the Rueda case study through five interlinked elements: problem statement, climate change challenges, socio-economic challenges, socio-technological solutions, and needs.

1. *Problem Statement.*
   Organic viticulture in Rueda is threatened by water scarcity, reduced financial support, frost risks, and uncertain weather forecasts. These issues jeopardize the profitability and sustainability of organic production, which depends heavily on maintaining soil health amid a challenging environmental context. Rising labor demands and variable soil conditions also add complexity to the efforts to produce organic wine sustainably in Rueda (Lal, 2015).
2. *Climate Change Challenges.*
   The continental climate of Rueda, characterized by extreme temperatures and limited rainfall, creates vulnerability to climate-related risks such as frost, drought, and pest prevalence. With an average rainfall of only 400 mm/year, vineyards face increasing water scarcity. The changing climate heightens the potential for frost, extreme weather, and pests, which threaten the integrity of the soil and, by extension, the viability of organic wine production (Lehmann et al., 2020).
3. *Socio-Economic Challenges.*
   Organic wine production in Rueda is driven by a rising consumer demand for eco-friendly products. However, reliance on CAP funding

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introduces financial uncertainty, which may impact the ability of farmers to maintain organic standards. Furthermore, the Rueda wine industry significantly contributes to local tourism and gastronomy, amplifying the socio-economic importance of sustaining production. The challenge remains to strengthen the value chain, integrating economic stability with environmental stewardship to support the livelihoods of all stakeholders from farmer to consumer (FAO, 2017).

4. *Socio-Technological Solutions*.
   Proposed socio-technological solutions focus on developing business models that integrate soil health into economic objectives. A portfolio of diverse business cases supporting soil health investments in Europe could provide valuable insights. This approach would benefit from policies that incentivize sustainable practices, including cover cropping and reduced pesticide use (McBratney, Prakongkep, & Derry, 2021). Additional strategies include improving soil health metrics, applying co-development models for soil-friendly practices, creating a digital strategy to raise soil health awareness, and fostering partnerships between investors and farmers to establish a community of practice (Davis & Hargreaves, 2020).
5. *Needs*
   Addressing the pentagonal problem for Rueda requires filling several gaps. Key needs include improved knowledge transfer among organic producers, securing alternative financial resources to counterbalance reductions in CAP support, and advancing organic production standards to expand market reach. In addition, policies that address soil health in organic farming, mitigate mildew risks, counter water shortages, and manage pest impacts are essential to ensuring soil resilience in the face of climate change (Rogge & Reichardt, 2016).

The Rueda case study illustrates the interplay between ecological goals and economic constraints in organic wine production, highlighting the need for robust business models that protect soil health. To support these objectives, research is required to identify effective incentives, sustainable practices, and community-based solutions that align economic incentives with environmental stewardship. By developing adaptable business models, Rueda's wine industry could better withstand climatic and economic pressures, advancing soil health as a cornerstone of organic production and sustainable agriculture.

2 Policy mix

The following table (Table 1) is based on insights gathered through interviews, focusing on how well the policy framework supports soil health in the context of organic viticulture. Each row includes an overview of specific policies, priority and quality assessments using a 5-point Likert scale, and relevant institutional interactions.

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Domains	Elements to consider	Description	Lickert (1-5)	
			P[1]	Q[2]
0.Awareness and understanding	Definition of soil health	Soil health is broadly defined but lacks specificity within regional policies. National awareness initiatives exist, but Rueda-specific outreach is minimal.	3	3
1.Policy concern	Soils as policy priority	Soil health is a moderate policy concern in Spain, highlighted within the CAP but less emphasized compared to water management or air quality. In Rueda, soil health is partially seen as a primary issue by some farmers but not acknowledged yet by some stakeholders.	3	2
2.Policy agenda on soils	Political commitment towards soil health, non-binding targets	Non-binding national targets emphasize soil preservation but lack concrete measures specific to vineyards. The CAP encourages sustainable farming practices, but there's limited localized commitment to vineyard soil health.	2	2
3.Institutional environment	Binding national regulations on soil	Spain's national policy mandates basic soil conservation, but without region-specific regulations tailored for viticulture. Regional authorities in Castilla y León have limited direct soil mandates for vineyards.	2	3
4.Policy integration	Interactions between and within policy sectors	Interactions between agricultural and environmental policies occur but are limited. Soil health policies intersect weakly with viticulture standards, with a slight focus on sustainability for EU markets	3	2
5.Governance structures	Levels of governance involved, roles and functions	National and regional governance roles exist, but Rueda's vineyard soil health lacks direct oversight. Local governments primarily enforce agricultural standards rather than soil-specific policies.	3	2
6.Contracts	Property rights enforcement	Contracts with the winery Riscal secure land use under organic protocols, but broader property rights lack specific soil	3	3

[1] P=priority. Please rank accordingly to 5 point-Likert scale based on how these elements are currently considered in your case study: 1 no priority; 2 low priority; 3 neutral; 4 moderate priority 5 high priority

[2] Q=quality. Please rank accordingly to 5 point-Likert scale based on the current quality of the political process in your case study: 1 very poor -2 poor; 3 acceptable; 4 good 5 very good

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	, land tenure agreements	preservation clauses, leaving soil protection largely at the farmer's discretion.		
7.Validation and coherence	Mechanisms in place to measure impacts and ensure compliance to targets and limits	Mechanisms in place to measure impacts and ensure compliance to targets and limits	4	3
8.Non-governmental actors	Role of different actors and multi-stakeholder coordination	Limited non-governmental involvement in soil policy. NGOs and research institutions participate more broadly in agricultural sustainability discussions, but their role in Rueda region is minor.	2	2
9.Allocation of resources and sources of finance	Available budget for soil health and blended finance	Public resources for soil health are limited, with CAP funds supporting organic agriculture indirectly, but there's no dedicated budget for soil-specific health programs in vineyards in Rueda.	2	2
10.Policy consistency with soil health	Synergies and trade-offs between policy sectors and towards soil ES	Policy synergies exist but lack specific focus on vineyard soil health; policies support organic production indirectly but do not robustly address long-term soil health.	3	2
11.Contextual factors	Enabling and disabling conditions		3	3

Priority Assessment: The priority of soil health policies in Rueda's vineyard sector varies. Soil awareness and integration within policies show neutral to low prioritization due to competing agricultural priorities, limited funding, and minimal localized soil-specific mandates. The highest priority emerges in contractual arrangements for organic production, where soil health is indirectly supported through organic standards, assessed at moderate priority.

Quality Assessment: The overall quality of the policy mix is acceptable but suffers from gaps in regional governance specificity, limited stakeholder engagement, and weak policy integration focused on soil health. The contractual relationship between farmers and the Riscal winery provides an indirect pathway for soil health, but regional and local governance roles remain underdeveloped.

In conclusion, the policy mix around soil health in Rueda reflects a complex interplay between multi-level governance, inconsistent policy integration, limited financial

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resources, and fragmented stakeholder engagement. To enhance the effectiveness of soil health policies in Rueda, the following recommendations are proposed:

1. Strengthen Policy Integration and Consistency: Align national and EU agricultural policies to support rather than conflict with soil health goals. Introducing specific incentives for soil health under CAP could bridge the gaps.
2. Develop Soil Health Contracts: Establish contracts and land tenure agreements that explicitly require soil management practices, providing clear obligations for organic producers in the Rueda region.
3. Increase Resources and Finance for Soil Health: Dedicate resources specifically to soil health measures in organic viticulture, leveraging CAP funding alongside new financial instruments for better soil health outcomes.
4. Enhance Multi-Stakeholder Coordination: Establish a formal multi-stakeholder coordination platform to facilitate the collaboration of governmental bodies, NGOs, and producers in implementing and monitoring soil health practices effectively (Ferguson & Tsang, 2019).

These improvements could substantially elevate the priority and quality of soil health governance, ensuring that Rueda's organic wine sector is well-equipped to meet environmental and socio-economic challenges sustainably.

3 Policy directionality

Aim of this section is to assess how existing instruments (regulatory and economic) put in place by the national policy mix are able to support business models for soil health. Policy instruments constitute the concrete tools to achieve overarching objectives and are usually associated with specific goals, i.e. the intended effect of instruments on the medium-long term. Furthermore, policy narrative are defined as the key words and concepts that express the political understanding of a problem, i.e. soil health.

3.1 Instruments

Table 3 Assessment of **policy instruments** (adapted from Rogge and Reichardt, 2016)

PRIMARY TYPE	PURPOSE TYPE		
	Supply	**Demand pull**	**Systemic**
Economic instruments	RD&D* grants and loans, tax incentives, state equity assistance	Subsidies, feed-in tariffs, trading systems, taxes, levies, deposit-refund-systems, public procurement, export credit guarantees	Tax and subsidy reforms, infrastructure provision,

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			cooperative RD&D grants
Regulations	Patent law, property rights; land tenure;	Technology/performance labels and standards, prohibition of products/practices, application constraints; public procurement	Market design, grid access guarantee, priority feed-in, environmental liability law Information
Information	Professional training and qualification, entrepreneurship training, vocational training, advisory	labelling programs, public information campaigns; consumers organizations	Education system, thematic meetings, public debates, cooperative programs, clusters

PRIMARY TYPE	**PURPOSE TYPE**		
	Supply	**Demand pull**	**Systemic**
Economic instruments	RD&D grants for soil conservation and organic practices. Purpose: Supports research into soil-friendly farming techniques. Effect: Targets grape producers; based on means; limited direct soil health impact; no direct sanctions.	Subsidies for organic certification. Purpose: Incentivizes transition to organic practices. Effect: Indirectly supports soil health by promoting chemical-free practices; targets farmers; linked to CAP and EU objectives; result-based compliance.	Cooperative RD&D grants. Purpose: Fosters collaboration on organic practices among wine producers. Effect: Targets cooperatives and associations; indirect soil impact through organic practices; non-binding means-based compliance.
Regulations	Land tenure regulations for sustainable practices. Purpose: Enforces	Organic production standards. Purpose: Sets standards for organic viticulture in Rueda.	Environmental liability laws. Purpose: Holds businesses accountable for soil degradation.

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	sustainable land use. Effect: Medium-term soil health benefits; targets landowners; based on compliance obligations; penalizes unsustainable practices.	Effect: Direct soil health impact; targets producers; mandates adherence to organic protocols; sanctions for non-compliance include decertification.	Effect: Targets all agricultural producers; indirectly improves soil health by enforcing liability; fines as penalties for non-compliance.
Information	Professional and vocational training in organic soil practices. Purpose: Builds capacity in soil-friendly farming. Effect: Educates farmers on soil management; indirectly supports soil health; non-binding and voluntary participation.	Environmental liability laws. Purpose: Holds businesses accountable for soil degradation. Effect: Targets all agricultural producers; indirectly improves soil health by enforcing liability; fines as penalties for non-compliance.	Cooperative educational programs. Purpose: Encourages information-sharing among local producers on sustainable practices. Effect: Indirect soil health benefits; targets farming cooperatives; non-binding participation.
Description*	The policy instruments above reveal a mixed approach to soil health in Rueda, combining economic incentives, regulatory standards, and educational initiatives. However, most instruments are indirect, with soil health benefits derived primarily through organic standards and liability laws. Direct impacts on soil health are primarily achieved through organic certification standards and liability laws, while economic incentives are generally indirect. Training programs provide additional support but lack the binding compliance found in regulatory instruments (McBratney, Prakongkep, & Derry, 2021).		

3.2 Policy narrative

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Table 3 Description of the policy narrative (based on Lehmann et al, 2020)

Policy narrative (and scale of action)	**Policies and incentives in place**	**Land tenure and contracts**	**Management strategies applied**	**Soil functions interested**	**Ecosystem services addressed**
Local and Regional Sustainability (Local)	CAP subsidies for organic certification; RD&D grants	Long-term contracts with Riscal winery; private land tenure	Organic soil enrichment, reduced chemical use	Nutrient transformation, habitat preservation	Food production; water filtration; habitat provision; carbon sequestration; preservation of cultural landscapes
Soil Health through Organic Standards (Regional/National)	Organic production standards; environmental liability laws	Contracts enforce organic compliance	Organic pest management, low pesticide/fertilizer use	Soil fertility and nutrient transformation	Food and biomass production; water quality; carbon storage
Education and Awareness (Local/National)	Public information campaigns; cooperative education programs	Cooperative land management agreements	Best practices for sustainable soil use	Nutrient cycling, soil biodiversity	Food production; support of life and biodiversity; cultural services (education and heritage conservation)

The policy narrative around soil health in Rueda emphasizes sustainable agricultural practices largely framed by the CAP's organic certification requirements, environmental liability, and public awareness campaigns. Local policy and national standards support organic viticulture and the broader goals of soil conservation and sustainability (Bennett, Peterson, & Gordon, 2009).

Key Characteristics of the Policy Narrative:

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- Local Policies and Incentives: Emphasis on CAP-aligned organic certifications and grants for sustainable practices. Environmental liability laws ensure accountability for practices that impact soil health.
- Management Strategies and Soil Functions: Management strategies in Rueda focus on soil enrichment and reduced chemical input, enhancing the soil's ability to transform nutrients and maintain biodiversity.
- Ecosystem Services for Soil Health: Key services provided include food production, water quality maintenance, biodiversity support, and carbon sequestration, aligning with EU objectives for sustainable agriculture and soil protection.

  The policy directionality in Rueda's case study demonstrates that while regulatory and economic instruments indirectly support soil health, more targeted soil-specific policies could enhance direct outcomes. The reliance on organic certification standards provides a structured approach but could benefit from additional soil health metrics to address long-term soil resilience more effectively.

4 Mapping exercise

4.1 Synthesis of the value mapping

Objective: To understand stakeholders' awareness and commitment to soil health, particularly within the business model (BM) developed for the Rueda case study, and to assess how value is created, delivered, and captured in the BM.

a. Value Proposition

- *Causes of Degradation:*
  Soil degradation in Rueda's vineyards is influenced by several factors, including water scarcity, climate-induced challenges (frost, drought), limited financial support, and labor shortages. These factors threaten the sustainability and profitability of organic viticulture in the region.
- *Socio-Technical Solutions (Business Model):*
  The Rueda BM integrates organic grape production by using contract solutions with the winery Herederos del Marqués de Riscal, incentivizing sustainable practices through payments for organic methods and cover cropping. This approach aligns with soil health objectives by mitigating soil erosion, improving biodiversity, and preserving soil organic matter.
- *Importance of Soil Health in BM:*
  Soil health is foundational to the value proposition, as healthy soils ensure a resilient and high-quality grape yield that supports the brand's reputation for premium organic wines. By promoting soil conservation practices, the BM fosters a balance between ecological integrity and economic gains.

b. Value Creation and Delivery

- *Targeted Soil Ecosystem Services (ES):*

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The BM aims to enhance services such as nutrient cycling, water retention, biodiversity conservation, and climate regulation by increasing soil carbon sequestration and reducing erosion (Davis, M. A., & Hargreaves, J., 2020).

- *Neglected Soil ES:*
  Certain services, like the soil's role as a cultural or geological archive, may be less emphasized due to the focus on agricultural productivity and direct soil health benefits.
- *Beneficiaries (Public/Private):*
  Public benefits include enhanced biodiversity, carbon sequestration, and reduced chemical runoff, contributing to broader environmental resilience. Private beneficiaries primarily include the winery and farmers, who gain economically from improved yields and market positioning of organic products.
- *Emerging Trade-Offs:*
  Trade-offs include potential tensions between short-term yield maximization and long-term soil conservation. While water and labor scarcity are addressed by the BM, challenges like climate unpredictability remain and might require additional support or adaptation measures.

c. Value Capture

- *Targeted Soil ES by Incentives:*
  Soil health incentives in Rueda focus on enhancing soil structure, nutrient cycling, and moisture retention. Payments for cover cropping directly support these services, fostering healthier, more productive soils.
- *Value Distribution Across Stakeholders:*
  Value is shared between the winery, which secures a stable, high-quality grape supply, and farmers, who receive a guaranteed market and price. The public benefits from reduced environmental impacts and increased sustainability of regional agriculture.
- *Resource Origin (Public/Private):*
  Financial resources for soil health incentives primarily derive from private investments by the winery, with limited public funding following the reduction of CAP support.
- BM Framing of Soil Health:
  Soil health is depicted as a multifaceted concept encompassing ecological, economic, and social value. The BM frames soil health not only as a foundation for organic production but also as essential for long-term regional resilience and agricultural viability.

4.2 Solution mapping synthesis

a. Desired Innovations and Changes

- *Innovations:*
  Improved water management systems, adaptive cover cropping, and biological pest controls are essential for enhancing resilience in Rueda's vineyards.
- *Policy and Regulatory Needs:*

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Binding regulations are needed to incentivize soil conservation practices, alongside subsidies for organic farming inputs. Clear policy support for integrated soil management practices, with rewards for ecosystem services, would enhance implementation.

b. Regulatory and Policy Conditions

- *Necessary Regulations and Resources:*
  Enhanced policies for soil monitoring, particularly around water usage and carbon storage, would benefit long-term soil health. Additional incentives, such as tax relief or further subsidies, are critical to support ongoing investment in organic farming.
- *Policy Tool Compatibility:*
  While existing incentives support organic practices, inconsistencies remain. For instance, the reduction in CAP funding could undermine soil health investments. Addressing these contradictions requires alignment between local incentives and overarching EU soil health goals.
- *Potential Soil Monitoring Law Impact:*
  A soil monitoring law could drive higher accountability and compliance, with binding standards for soil health across the region. This would support the implementation of sustainable practices and potentially attract more private investment.
- *Needed Contractual Solutions and Guarantees:*
  Long-term contracts with certification guarantee for organic practices would offer stability and reward commitment. Certification could include verification of soil health improvements and biodiversity gains.

c. Resource Facilitation

- *Required Resources:*
  Support for training programs, access to research findings on sustainable practices, and funding for innovation in soil health technologies are pivotal to facilitate the transition. Collaboration with universities and agricultural research centers could enhance knowledge transfer.

4.3 Pathways mapping

Table 4 Pathways mapping

	Short term (up to 3 years)	**Medium (3 - 7 years)**	**Long term (after 7 years)**
INNOVATIONS			
Regulations and binding policies	Introduce binding soil conservation standards	Extend CAP support for organic practices	Enforce EU-wide soil monitoring compliance
Incentive instruments	Subsidies for organic inputs, cover crops	New tax relief on organic practices	EU grants for long-term soil health projects

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Contractual solutions	Establish long-term contracts with certification	Expand soil-focused certifications	Broad adoption of certified organic standards
Infrastructure	Improve irrigation, water management	Build regional soil health monitoring networks	High-tech soil monitoring infrastructure
Product	Eco-labeled organic wine varieties	Broaden organic product lines	Rueda as a benchmark for organic viticulture
Services	Advisory on soil-friendly practices	Regional centers for soil health research	Advanced R&D centers for soil sustainability
Technology	Introduce soil sensors, climate forecasting tools	Biodegradable pest management tools	AI-driven soil management
Institutions	Collaboration between winery and local agencies	State involvement in soil health enforcement	National institutions uphold soil health
Actors' configuration	Winery-farmer direct partnerships	Partnerships with environmental NGOs	EU-wide organic consortia
Coordination mechanisms and partnerships	Local partnerships for soil monitoring	Regional forums for soil health	EU soil health alliances
RESOURCES			
skills, knowledge, R&D	Funding from winery, small grants	Private-public partnership funding	Dedicated EU soil health funds
DRIVERS: social habits, economic, environmental	Rising demand for organic wines	Shift toward eco-conscious consumption	Climate resilience embedded in viticulture

5 References

Barth, H., Ulvenblad, O., & Ulvenblad, P. (n.d.). Towards a Conceptual Framework of Sustainable Business Model Innovation in the Agri-Food Sector: A Systematic Literature Review. https://doi.org/10.3390/su9091620

Lehmann, J., Bossio, D. A., Kögel-Knabner, I., & Rillig, M. C. (2020). The concept and future prospects of soil health. In Nature Reviews Earth and Environment

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(Vol. 1, Issue 10, pp. 544–553). Springer Nature. https://doi.org/10.1038/s43017-020-0080-8

Rogge, K. S., & Reichardt, K. (2016). Policy mixes for sustainability transitions: An extended concept and framework for analysis. Research Policy, 45(8), 1620–1635. https://doi.org/10.1016/j.respol.2016.04.004

Shanahan, E. A., Jones, M. D., & Mcbeth, M. K. (2011). Policy Narratives and Policy Processesp sj_420 535..562.

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