

# Deliverable 3.3

## Business model catalogue

### Document history

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## List of Abbreviations

abbreviation	Definition
<b>B</b>	Business
<b>C</b>	Customer
<b>CAPEX</b>	Capital Expenditure
<b>CCLS</b>	Cooperative des Céréales et des Legumes Secs
<b>COOPSSEL</b>	Cooperative de Service Spécialisée en Élevage
<b>FAO</b>	Food and Agriculture Organisation
<b>GHG</b>	Greenhouse Gas
<b>LER</b>	Land Equivalent Ratio
<b>MFVS</b>	Mixed Fruit tree-Vegetable Systems
<b>OPEX</b>	Operational Expenditure
<b>ROI</b>	Return On Investment
<b>WP</b>	Work Package



## 1. INTRODUCTION

The increasing interest in agroforestry and mixed farming systems requires a clear and structured roadmap to support their effective implementation, management, and long-term scaling. Economic viability remains a key factor influencing farmers' adoption decisions. Previous studies highlight that agroforestry systems often face uncertainties linked to limited technical knowledge, different labour requirements, and less developed markets, which can hinder the development of robust technical and business models.

Nevertheless, recent evidence shows promising socio-economic performance. A review of agroecological systems found that agroforestry delivers positive socio-economic outcomes in more than half of evaluated cases, with strong potential to improve overall farm performance. However, these systems may also involve higher labour inputs and associated costs, underlining the need for well-designed and context-adapted business models. Complementary research and initiatives across the Mediterranean and at the European level are further contributing to this knowledge base.

In this context, the Transition project focuses specifically on the Mediterranean region. This deliverable presents a compilation of six business models developed across five study regions. Four models are based on different tree–crop combinations, while two explore innovative systems that can be integrated into existing farming systems. All selected cases build on the systems identified in WP1 and further analysed in WP2.

The business models emphasise the definition of clear value propositions, the identification of key beneficiaries and partners, and the design of practical implementation strategies. They also address sustainable revenue generation, cost structures, and mechanisms for knowledge transfer and capacity building among farmers. Strong partnerships and cross-regional collaboration are highlighted as essential elements for successful adoption and scaling.

By presenting diverse case studies, this deliverable provides a comparative overview of strategies to support agroforestry and mixed farming systems under Mediterranean conditions. Ultimately, it aims to encourage the uptake of these systems as viable and resilient approaches for climate change adaptation and sustainable rural development in the region.

## 2. RESULTS. Business model compilation

In each participating region, one or two agroforestry or mixed cropping systems were selected based on those identified in WP1 and further developed in WP2, prioritising their relevance and implementation potential within the local context.

To describe their business models, the Business Model Canvas by Osterwalder and Pigneur was used, providing a clear and structured way to organise the key elements. Each partner completed an initial canvas, which was later refined and validated through feedback and revision processes to accurately reflect the specific characteristics of each system.

Once the canvas was finalised, all sections were described in detail to ensure clarity and accessibility for external readers. The description includes: an introduction and value proposition; key implementation aspects (partners, activities, and resources); customer-related elements (segments, relationships, and channels); cost structure (CAPEX and OPEX); and revenue streams, including both product sales and cost savings. Risks and region-specific changes are also addressed.

Finally, Table 1 presents the selected models across all regions, offering a comparative overview of the strategies, opportunities, and challenges associated with implementing agroforestry and mixed cropping systems in the Mediterranean context.

*Table 1. Summary of the selected system for the model business task.*

Country	System type	name
Algeria	Innovative crop	Field pea ( <i>Pisum sativum</i> L.)
Egypt	Agroforestry	<i>Jatropha curcas</i> trees and diverse vegetable crops
France	Mixed farming	Mixed fruit tree-vegetable system
Italy	Agroforestry	Olive trees and cereals (durum wheat, soft wheat, rye)
Spain	Agroforestry	Olive trees and winter cereal
Spain	Innovative crop	Kernza® ( <i>Thinopyrum intermedium</i> )

Region: Sétif (Alegria)

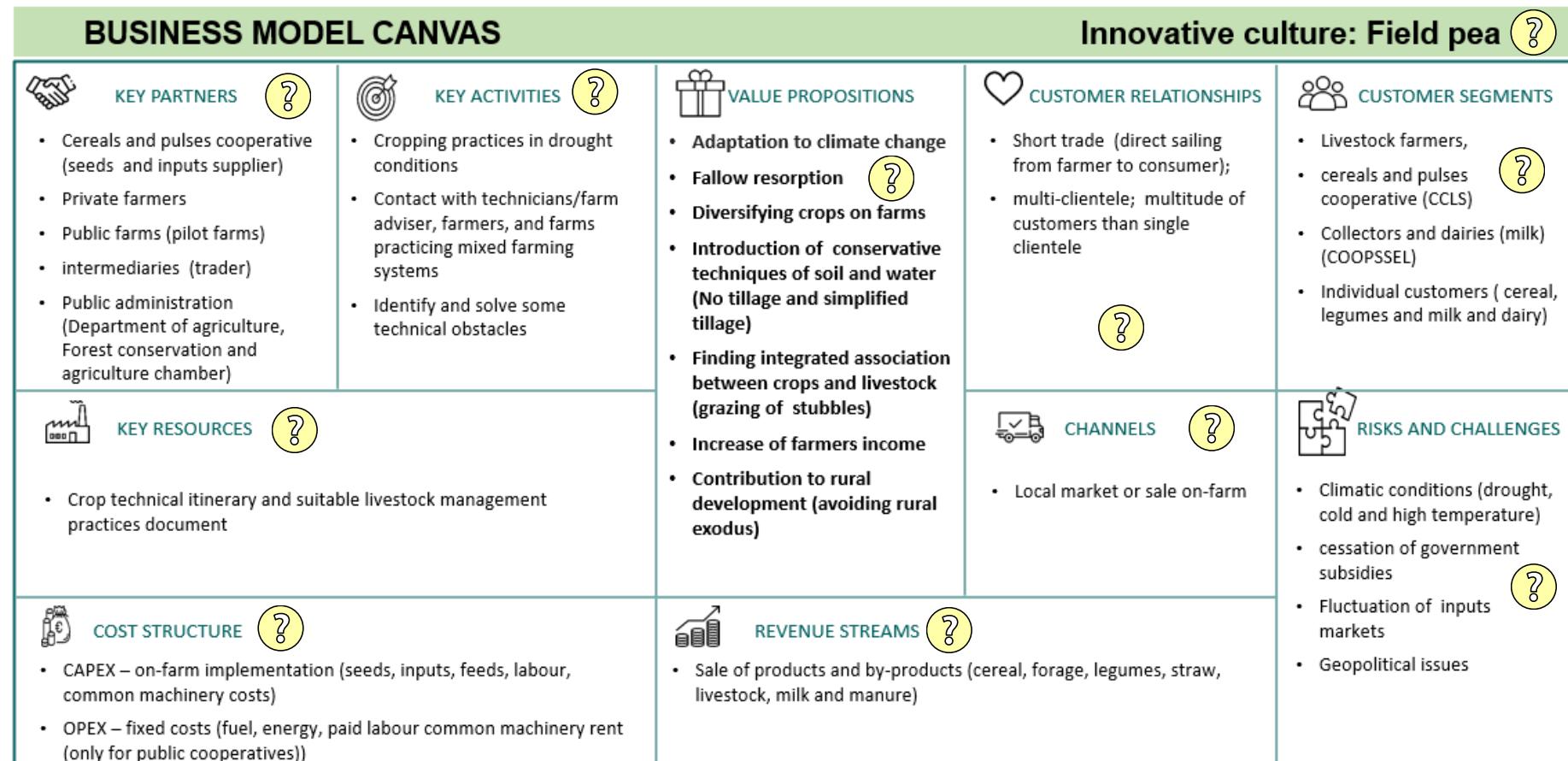


Figure 1. Business model canvas of field pea cultivated in the Sétif region, Algeria.

Region: Alexandria (Egypt)

BUSINESS MODEL CANVAS		Agroforestry system: Jatropha trees + vegetable crops 		
 <b>KEY PARTNERS</b>  <ul style="list-style-type: none"> <li>Organic fertilizers suppliers (e.g., Tulipe)</li> <li>Seeds provider (e.g., National seed &amp; agriculture services Co. BUTHOR)</li> <li>Agriculture support services (e.g., SMART Lab. Co.)</li> <li>Public administration: Faculty of Agriculture, Alexandria and Matrouh University, Agriculture Research Center, Egyptian Authority for Development and Agricultural Expansion)</li> </ul>	 <b>KEY ACTIVITIES</b>  <ul style="list-style-type: none"> <li>System design including previous research to ensure suitability</li> <li>Soil/water management using carbon farming practices</li> <li>Technology transfer involving demonstrations, workshops, and extended services</li> <li>Social awareness involving educational campaigns, agricultural fairs, and marketing initiatives</li> </ul>	 <b>VALUE PROPOSITIONS</b> <b>Climate resilience strategies:</b> <ul style="list-style-type: none"> <li>Efficient water management</li> <li>Optimized land use</li> <li>Production stabilization </li> <li>Early warning system for weather events and potential disruptions</li> <li>Minimum mineral fertilizer usage combined with high economic productivity (focusing on improved soil health and efficient nutrient delivery)</li> <li>Increasing the soil carbon content (Improving the carbon sequestration cycle)</li> <li>Easy-to-implement waste management solutions</li> </ul>	 <b>CUSTOMER RELATIONSHIPS</b> <ul style="list-style-type: none"> <li>Long-term commercial relationships with small-scale crop farms and companies</li> <li>Promotion of local agricultural market </li> <li>Strategic governmental partners</li> </ul>	 <b>CUSTOMER SEGMENTS</b> <ul style="list-style-type: none"> <li>Exporting agencies</li> <li>Eco-friendly food stores</li> <li>Agrifood trading companies (e.g., Mozare3 agency) Individual customers </li> <li>Resorts and restaurants</li> </ul>
 <b>KEY RESOURCES</b>  <ul style="list-style-type: none"> <li>Agriculture system design according to the farmer/customer needs</li> <li>Logistic and technological management plan of cultivation process and final production</li> <li>Pilot farm for experiments and demonstration</li> <li>Monitoring system Research&amp;Development facilities</li> </ul>		 <b>CHANNELS</b>  <ul style="list-style-type: none"> <li>Local B to C supply chain</li> <li>B to B supply chain for resorts, restaurants, and exporting agencies</li> </ul>		 <b>RISKS AND CHALLENGES</b> <ul style="list-style-type: none"> <li>The velocity and quantity of the administrative procedures</li> <li>Climatic changes (warmer climate, which exceeds 1.5 degrees in the study region the last 5 years effecting water management, soil degradation and pest control)</li> <li>Social perception and acceptance of innovative culture</li> <li>Economical inflation</li> </ul>
 <b>COST STRUCTURE</b>  <ul style="list-style-type: none"> <li>CAPEX - Farm rent and taxes, drip irrigation system components, facilities and machines for the (organic) fertilizers mixing and storage</li> <li>OPEX - Soil preparation operations, organic fertilizers preparation, seeds and plantation cost, official seasonal water requirement reports, irrigation pumping power, marketing</li> </ul>	 <b>REVENUE STREAMS</b>  <ul style="list-style-type: none"> <li>Product sales: Vegetables (tomatoes and potatoes), Jatropha seeds, seed cake after oil extraction as forage, crop residuals for organic fertilizers preparations</li> <li>Significant reduction in tomatoes and potatoes production cost with 29% per acre in the cost of production</li> <li>Possible branding franchise in expanding stages</li> </ul>			

Figure 2. Business model canvas of jatropha trees combined with vegetable crops, Egypt

Region: Provence (France)

BUSINESS MODEL CANVAS		Agroforestry system: Mixed fruit trees vegetables system		
 KEY PARTNERS 	 KEY ACTIVITIES 	 VALUE PROPOSITIONS 	 CUSTOMER RELATIONSHIPS 	 CUSTOMER SEGMENTS 
<ul style="list-style-type: none"> <li>Farmers</li> <li>Agricultural suppliers (plants, green waste, machinery, tools)</li> <li>Customers</li> <li>Advice organizations</li> <li>Public administration (chamber of agriculture, local authorities)</li> <li>Research and innovation centers</li> </ul>	<ul style="list-style-type: none"> <li>Combined fruits and vegetable production</li> <li>Eventually, other rewarding activity (teaching, hosting, poultry breading)</li> <li>Contact with farm advisors</li> <li>Training on fruits production</li> <li>Strengthen the network with other practitioners and customers</li> </ul>	<ul style="list-style-type: none"> <li>Optimization of land use </li> <li>Increase in LER </li> <li>Temporal complementarity of the productions (vegetable production when the young fruit trees don't produce)</li> <li>Reduction of erosion and improvement of soil structure (enhanced of soil fertility)</li> <li>Improvement of landscape quality by the plantation of trees</li> <li>Carbon sequestration (ecosystem services)</li> <li>Biodiversity conservation (bird, insect, soil organism, mammal etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Regular customers all year long</li> <li>Intermittent customers to mobilize when there is an excess in production </li> </ul>	<ul style="list-style-type: none"> <li>Individuals</li> <li>Organic stores</li> <li>Community supported agriculture</li> <li>Restaurants</li> <li>Collective point of sell</li> </ul>
 KEY RESOURCES 		 CHANNELS 		 RISKS AND CHALLENGES 
	<ul style="list-style-type: none"> <li>Land (with a secured water access and fertile soil)</li> <li>Ergonomic design of the parcel adapted to the farmer's specific needs or facilitates to the adoption of new parcel design</li> <li>Crop management and good practices documents</li> <li>Access to specific accessories to adapt agricultural machinery</li> </ul>	<ul style="list-style-type: none"> <li>Local supply B to C and B to B </li> </ul>		<ul style="list-style-type: none"> <li>Complexity of management of a highly diversified systems may lead to care more about vegetables than about fruit trees</li> <li>Ensure a secured commercialization of the products</li> <li>Administrative procedures</li> <li>Climate change that can lead to water scarcity and pests invasion</li> </ul>
 COST STRUCTURE 		 REVENUE STREAMS 		
	<ul style="list-style-type: none"> <li>CAPEX – on-farm implementation and maintenance (land, machinery, buildings, fridge, transformation unit)</li> <li>OPEX – fuel, machinery rent, plants, electricity, organic fertilizers and treatment, small tools, commercialization packaging</li> </ul>	<ul style="list-style-type: none"> <li>Sale of products (fruits, vegetables and eventually transformed products)</li> <li>Savings in ordinary costs due to the optimization of land use (tillage, fertilizer, water)</li> <li>Reduction of crop management costs thanks to the biological synergies</li> <li>Other activities (laying hen farming, tourism, teaching)</li> </ul>		

Figure 3. Business model canvas of mixed fruit trees vegetables system in France

Region: Sicily (Italy)

BUSINESS MODEL CANVAS		Agroforestry system: Olive trees – cereals		
 <b>KEY PARTNERS</b>  <ul style="list-style-type: none"> <li>• Seed provider</li> <li>• Farmer networks</li> <li>• Agronomic consultants</li> <li>• Agricultural suppliers</li> <li>• Flour and oil producers</li> <li>• Seed-sharing association for the preservation of genetic variability</li> <li>• Research and innovation centers</li> </ul>	 <b>KEY ACTIVITIES</b>  <ul style="list-style-type: none"> <li>• Olive tree management and use of varieties that historically adapt well to the condition of the area of cultivation</li> <li>• Cereal crops cultivation, choosing local and ancient varieties that can bring to a higher yield stability of the crop</li> <li>• Cereal seed reproduction by selected farms</li> <li>• System design: The system should be designed with an extensive tree spacing (9x9) in order to allow machinery operations</li> </ul>	 <b>VALUE PROPOSITIONS</b>  <ul style="list-style-type: none"> <li>• Maintenance of plants and soil biodiversity could lead to a lower incidence of weeds and pests reducing the use of chemical inputs</li> <li>• Production diversification</li> <li>• Yield stability and Land Equivalent Ratio increase</li> <li>• Reduction of soil degradation and erosion</li> <li>• Improvement of soil quality (e.g., organic matter, water holding capacity)</li> </ul>	 <b>CUSTOMER RELATIONSHIPS</b>  <ul style="list-style-type: none"> <li>• Long-term commercial relationship</li> <li>• Promotion of high-added value agricultural market</li> <li>• Quality linked to the area of origin</li> </ul>	 <b>CUSTOMER SEGMENTS</b>  <ul style="list-style-type: none"> <li>• Local food services</li> <li>• Flour and olive oil producers who are sensitive to sustainability</li> </ul>
 <b>KEY RESOURCES</b>  <ul style="list-style-type: none"> <li>• Farms suitable for olive and/or cereal intercropping</li> <li>• Experienced farmers or farmers who are willing to learn new practices related to agroforestry</li> <li>• Access to training programs</li> <li>• Specific machinery for trees and crop management and cereal harvesting</li> </ul>		 <b>CHANNELS</b>  <ul style="list-style-type: none"> <li>• Local supply B to C and B to B</li> <li>• Direct link between farmers and local food services</li> </ul>		 <b>RISKS AND CHALLENGES</b>  <ul style="list-style-type: none"> <li>• The higher complexity of the agroforestry system could require an adaptation of agronomic management</li> <li>• Promotion of farmers associations or interaction to reduce the production costs of machinery due to the increased diversification of machinery</li> <li>• Optimisation of the system to minimise the loss of absolute yield (despite higher LER) compared to conventional systems</li> <li>• Need of specific policies for intercropping and agroforestry systems</li> </ul>
 <b>COST STRUCTURE</b>  <ul style="list-style-type: none"> <li>• CAPEX – on-farm implementation (common machinery acquisition, seeds)</li> <li>• OPEX – fixed costs (fuel, common machinery rent, HR)</li> </ul>		 <b>REVENUE STREAMS</b>  <ul style="list-style-type: none"> <li>• Sale of products (cereal, flour and olive oil)</li> <li>• Savings in water input due to the land use intensification</li> <li>• Saving in treatment costs like weed control</li> </ul>		

Figure 4. Business model canvas of mixed fruit trees vegetables system in Italy

Region: Catalonia (Spain)

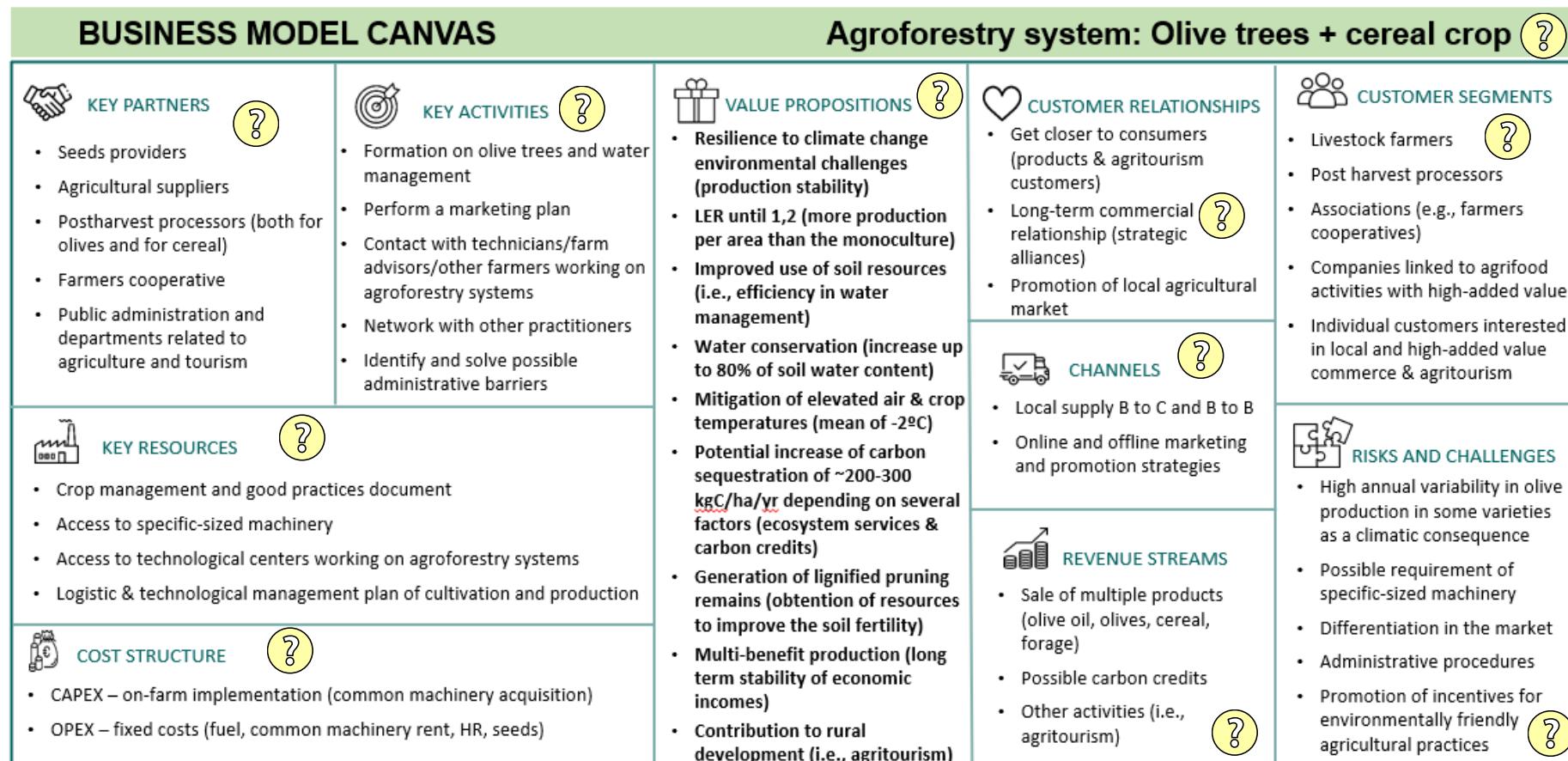


Figure 5. Business model canvas of olive trees with cereal crop in Catalonia Region, Spain



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Region: Catalonia (Spain)

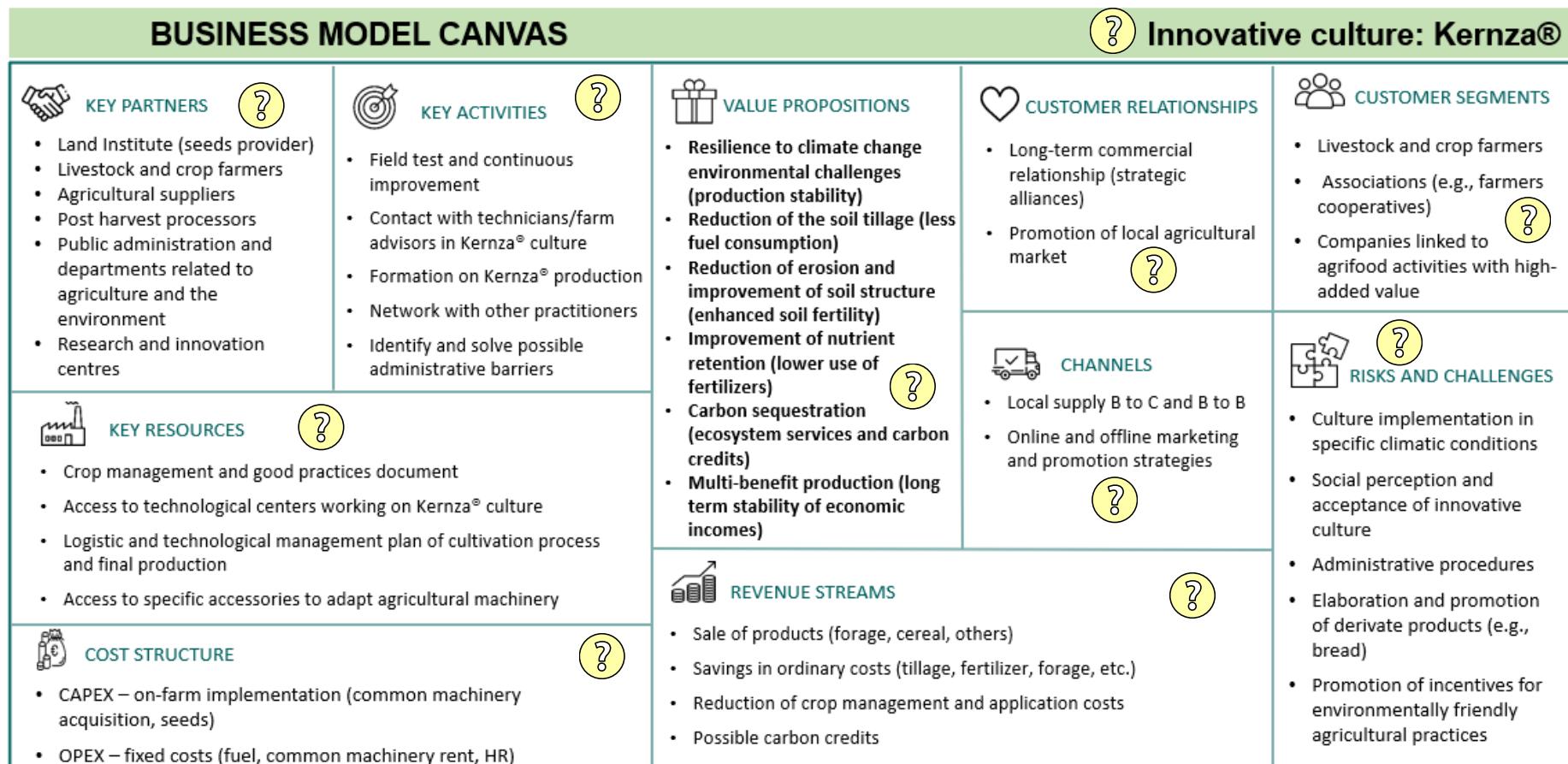


Figure 6. Business model canvas of olive trees with cereal crop in Catalonia Region, Spain



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