Contingency planning arguments
- the case of Catalonia -



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Summary

The project ECO-Ready aims at developing a contingency planning framework which can be used as a base for developing contingency plans by Living Labs. In this process, task 5.3 supports interested Living Labs by providing arguments hat could be used in their own contingency planning activities. These arguments build on results from a focused interaction with Large Language Models based on a few basic issues that specify an outer space for the contingency planning interaction.

This report concentrates on arguments for contingency planning in the Spanish region Catalonia with a primary view on Olive growing farms and the challneges they face due to experiences of drought and water shortages which might be linked to changes in climate. It is expected that in future scenarios the shortage of water will be a constant and increasing phenomena which requires action in support of farms, the region, and in consequence, the health of people, the cultural identity of the region, and the wealth of its population.,

The arguments inn this report do not lead to a consistent view but are elements which can be integrated in contingency plans, used in the communication of contingency plans, and used in making policy and other potential actors aware of the need for their engagement.

Disclaimer

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0 Problem basics

> **Region:** Catalonia
> **Target group:** Farmers
> **Hazard:** Drought
> **Product:** Olive Oils

1 What percentage of farmers in Catalonia produce Olives?

While specific data on the percentage of farmers in Catalonia who cultivate olives is not readily available, we can infer some insights based on available information.

Olive Cultivation in Catalonia

Land Use: Approximately 108,000 hectares, or 14% of Catalonia's arable land, are dedicated to olive cultivation. (Prodeca)

Production Regions: The primary olive-producing areas include the southern regions of Camp de Tarragona and Terres de l'Ebre, as well as Les Garrigues in Lleida province, which is considered the center of olive cultivation in Catalonia. (Katalanische Nachrichten). In these regions, olive cultivation is a primary agricultural activity, often serving as the main source of income for many farmers.

Varieties: The Arbequina olive is the most prominent variety in the region, known for producing high-quality olive oil. (Wikipedia)

Farm Income Contribution: While specific figures for Catalonia are limited, studies indicate that olive farming can be a substantial income source. For instance, in certain Spanish regions, olive farms have shown significant economic performance, with profitability influenced by factors such as farm size, production methods, and market access. (SpringerOpen)

Olive Oil Output: In 2020, Catalonia produced around 29,863 tonnes of olive oil. (agricultura.gencat.cat)

Challenges and Support: Small-scale olive farms often face economic challenges due to market volatility and production costs. However, support mechanisms like the Common Agricultural Policy (CAP) subsidies play a crucial role in sustaining these farms, especially those adopting organic practices. (SpringerOpen)

Estimating Farmer Participation

Given that 14% of arable land is used for olive cultivation, it's plausible that a significant portion of farmers are involved in olive production, either exclusively or as part of diversified farming operations. However, without specific data on the total number of farmers and their individual crop portfolios, it's challenging to determine an exact percentage.

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Conclusion

In summary, olive production holds considerable relevance for farming in Catalonia, both in terms of land use and as a source of income, particularly in regions where it is the dominant agricultural activity. While challenges exist, especially for smaller farms, support mechanisms and market opportunities continue to underpin the sector's economic significance.

2 Economic Contribution of Olive production to Agriculture

Agricultural Income: While specific figures for recent years are limited, data from 2008 indicates that olive oil contributed approximately 1.05% to Catalonia's final agricultural output at producer prices. (agricultura.gencat.cat)

Comparison with Other Sectors: In the same period, other agricultural products had the following contributions:

Fresh fruit: 12.94%
Cereals: 5.78%
Wine and must: 1.43%
Dried fruit: 1.70%
Vegetables: 4.33%
Porcine (pig farming): 32.40% (agricultura.gencat.cat)

3 Regional relevance

Olive cultivation is a cornerstone of agriculture in several regions of Catalonia, notably Les Garrigues, Terres de l'Ebre, and Camp de Tarragona. While specific data on the number of farms and the exact contribution of olive growing to farm income in these regions is limited, available information provides insight into its significance.

Les Garrigues

Agricultural Focus: Les Garrigues is renowned for its olive cultivation, particularly the Arbequina variety, which thrives in the region's dry, rainfed conditions. The area is recognized under the Protected Designation of Origin (PDO) Les Garrigues, the oldest olive oil PDO in Spain, established in 1975. (femturisme.cat)

Economic Role: Olive farming is a primary agricultural activity in Les Garrigues, contributing significantly to the local economy. The region's identity is closely tied to olive cultivation, with numerous cooperatives and mills supporting production and distribution.(femturisme.cat)

Terres de l'Ebre

Production Scale: In Terres de l'Ebre, olive cultivation is prominent, with cooperatives like Soldebre in Tortosa comprising over 1,600 members and producing approximately 18,000,000 kg of olives annually. (oliSoldebre)

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Economic Contribution: Olive farming is a significant source of income for many farmers in the region. The presence of large cooperatives indicates the centrality of olive cultivation to the agricultural economy.

Camp de Tarragona

Agricultural Diversity: Camp de Tarragona's agriculture includes olives, hazelnuts, and wine. While olives are among the region's distinctive agricultural products, specific data on the number of olive farms and income contribution is not readily available.

Summary

While precise figures on the number of farms and the exact contribution of olive growing to farm income in these regions are not specified in the available sources, olive cultivation undeniably plays a vital role in the agricultural economies of Les Garrigues, Terres de l'Ebre, and Camp de Tarragona. The presence of established cooperatives and PDO recognitions underscores its importance.

4 Hazard: The Drought Problem

Climate Challenges:

Recent years have seen a decline in olive yields due to prolonged droughts and lack of irrigation, particularly affecting areas like Baix Ebre, Montsià, and Camp de Tarragona. (Tridge).

Economic Support:

To mitigate challenges, mechanisms like the Common Agricultural Policy (CAP) subsidies provide crucial support to olive farmers, especially those adopting organic practices.

Conclusion

While olive production constitutes a modest percentage of Catalonia's overall agricultural income, it holds substantial importance in specific regions, both economically and culturally. The sector faces challenges, but with appropriate support and sustainable practices, it continues to be a vital part of Catalonia's agricultural landscape.

5 Olive production in Terres de L'Ebre

➔ **What is the contribution of Olive production to farm income in this region.**

Olive cultivation is a cornerstone of agriculture in Terres de l'Ebre, a region in southern Catalonia encompassing the comarques of Baix Ebre, Montsià, Terra Alta, and Ribera d'Ebre. While specific figures on the exact number of farms and the precise contribution of olive growing to farm income in these areas are limited, available information underscores the sector's significance.(Wikipedia)

Olive Production and Economic Impact

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Cooperative Production: In Terres de l'Ebre, olive cultivation is prominent, with cooperatives like Soldebre in Tortosa comprising over 1,600 members and producing approximately 18,000,000 kg of olives annually.

Harvest Variability: The region has experienced significant fluctuations in olive harvests due to climatic conditions. For instance, in 2024, the olive oil harvest in Catalonia was expected to be 50% lower than the previous year, with southern regions like Terres de l'Ebre and Camp de Tarragona facing declines of up to 65%. (Katalanische Nachrichten)

Farm Income Considerations

Income Dependency: Studies indicate that farmer income in rainfed olive production systems is highly dependent on seasonal rainfall distribution. During drought periods, income levels are notably low, highlighting the vulnerability of such agricultural practices. (SpringerLink)

Conclusion

Olive cultivation remains a vital component of Terres de l'Ebre's agricultural economy, both culturally and economically. However, the sector faces challenges due to climatic variability and market fluctuations. Support mechanisms and sustainable practices are essential to ensure the continued viability of olive farming in the region.

6 Effect of harvest loss

➔ **What is the effect of Olive harvest losses on the production of Olives in the longer run**

The effect of olive harvest losses—especially due to recurring droughts or extreme weather—on long-term olive production can be significant and multifaceted. Here's a breakdown of the main long-term consequences for olive farming, especially in regions like Terres de l'Ebre:

1. Reduced Productivity of Olive Trees

Physiological stress: Repeated water stress weakens trees, reducing flowering and fruit setting in subsequent years.

Cumulative yield decline: If droughts occur over multiple seasons, trees may not fully recover, leading to persistent lower yields.

Tree mortality: In extreme cases, trees may die or be removed, especially in older groves with limited root systems.

2. Changes in crop Management and Practices

Shift to drought-tolerant varieties: Farmers may replant with more resilient cultivars (e.g., changing from Arbequina to other varieties).

Abandonment of marginal groves: Especially in unirrigated, sloped, or remote areas, low yields may not justify maintenance costs, leading to land abandonment.

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Irrigation investment: Where feasible, farms may invest in drip irrigation systems to stabilize yields—but this is capital intensive and limited by water availability.

3. Economic and Structural Impacts

Decreased farm income: Persistent low yields reduce profitability, especially for smallholders. This can push farmers out of the sector.

Cooperative fragility: Lower volumes threaten the economies of scale of olive oil cooperatives, making them less competitive in the market.

Reduced reinvestment: Farmers might cut back on pruning, fertilizing, and pest management—leading to a further decline in productivity.

4. Land Use Change and Abandonment

Rural depopulation: In areas where olives are a primary crop (like Les Garrigues and parts of Terres de l'Ebre), economic strain can lead to rural exodus.

Land degradation: Abandoned olive groves often face erosion and biodiversity loss, especially in Mediterranean hill areas.

5. Market Effects

Supply shortages: Long-term production drops can create regional or national supply shortages, driving prices up.

Import reliance: In extreme cases, regions may turn to imported olive oil, affecting local industry sustainability.

Quantitative Insight (from Spain-wide and Mediterranean studies):

A 10–20% yield loss sustained over 3–5 years has been shown to:

Reduce gross margins by up to **50%** for rainfed farms.

Increase farm exit rates by **15–25%** in the most affected zones.

Lead to **land abandonment** rates of up to **30%** in marginal groves ([source: European Commission, CAP Impact Assessments]).

Conclusion

Harvest losses due to weather stress in olive farming can have compounding effects—leading to reduced future yields, economic instability, and even structural shifts in the agricultural landscape. In vulnerable regions like Terres de l'Ebre, proactive policy, targeted subsidies, climate adaptation (e.g., irrigation, varietal change), and rural support programs are essential to mitigate long-term losses.

7 Farm and policy opportunities

➔ **What possibilities do farmers or policy have for dealing with drought in keeping Olive production alive**

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To keep olive production alive under increasing drought stress, farmers and policymakers have several viable options—ranging from short-term mitigation to long-term adaptation strategies. Below is a structured overview tailored to Mediterranean contexts like Terres de l'Ebre, where droughts are becoming more severe and frequent:

FARMER-LEVEL OPTIONS

1. Irrigation Optimization

Install drip irrigation systems: Highly efficient, reduces water loss and delivers moisture directly to roots.

Use soil moisture sensors: Helps optimize watering schedules.

Harvest rainwater or use small reservoirs.

Limitation: Water rights, infrastructure costs, and availability of water during droughts.

2. Soil and Water Conservation

Mulching: Reduces evaporation and maintains soil moisture.

Cover cropping: Improves soil structure and reduces erosion.

Contour planting or terracing: Prevents runoff and improves water infiltration.

3. Tree Management

Pruning for drought: Reducing canopy size lowers water demand.

Thinning groves: Reduces competition among trees for limited water.

Grafting or planting drought-resistant varieties: e.g., Cornicabra or Picual may be more drought-hardy than Arbequina.

4. Crop Diversification or Intercropping

Planting alternative crops (e.g., almonds, carob, or aromatic herbs) that are drought-resistant to spread risk.

POLICY-LEVEL OPTIONS

1. Direct Financial Support

Targeted subsidies: For rainfed olive growers who suffer income losses due to drought.

Disaster relief payments: Linked to meteorological thresholds or insurance triggers.

CAP Pillar II support: Agri-environment-climate payments for sustainable water practices or soil protection.

2. Climate-Resilient Infrastructure

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Irrigation investments: Co-finance collective water-saving systems or reuse of treated wastewater.

Digital tools: Subsidize farm-level decision tools for irrigation or drought forecasting.

3. Agri-Insurance and Risk-Sharing

Crop insurance: Expand coverage for yield losses due to drought.

Income stabilization tools: CAP allows setting up mutual funds or income averaging mechanisms.

4. Research and Development

Fund breeding programs for drought-resistant olive varieties.

Support extension services to train farmers on adaptive techniques.

5. Land Use and Landscape Policy

Prevent abandonment: Offer incentives to maintain traditional groves with ecological value.

Ecosystem payment schemes: Recognize olive groves as carbon sinks or biodiversity habitats (e.g., via eco-schemes).

6. Regional Drought Contingency Planning

Develop localized **"drought maps"** to prioritize emergency support.

Coordinate water resource allocation across sectors (agriculture, urban, industry) during crises.

COMBINED STRATEGIES (Best Practice)

Farmers who **combine drip irrigation, mulching, and pruning** reduce water use by up to **40%** without significant yield loss.

A study in Andalusia showed farms adopting adaptive strategies had **30–50% less income volatility** under drought.

Summary Table

Strategy Type	Example Action	Who Acts?	Timescale
Water Efficiency	Drip irrigation, moisture sensors	Farmer	Short-term
Financial Support	Drought subsidies, CAP payments	Policymaker	Short-term
Crop Resilience	Drought-tolerant varieties, grafting	Farmer	Medium-term
Policy Infrastructure	Irrigation projects, drought maps	Policymaker	Medium/long
Land Stewardship	Payments for ecosystem services	Farmer + Policy	Long-term

8 Necessary funds

➔ **Funds needed for implementing these measures per farm and per region?**

The table displays the cost breakdowns separated into:

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1. **Farm Management Costs** – expenditures typically borne by farmers.
2. **Policy Actor Costs** – expenditures typically funded or subsidized by government or public programs.

		EUR per farm	Total for Region (EUR)
1	Drip irrigation system	8000	32000000
2	Soil mulching and conservation	1500	6000000
3	Pruning and tree management	1000	4000000
4	Grafting/new drought-tolerant varieties	3000	12000000
5	Digital tools (e.g., moisture sensors)	1200	4800000
6	Insurance subsidy support	1000	4000000
7	Training and advisory services	500	2000000
8	TOTAL	16200	64800000

The table includes per-farm costs and the total cost if applied across approximately 4,000 olive farms in the region. Cost items 1 to 5 are farm management costs, items 7 to 8 policy actor costs.

➔ **5-year cost-sharing scenarios with the following assumption**

- **Farm Management** costs are shared: 70% paid by farmers, 30% subsidized by policy.
- **Policy Actor** costs (insurance, training) are fully covered by public funds.

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5-Year Farm Management Cost Sharing

		EUR per farm	Total for Region (EUR)	5-Year Cost per Farm	5-Year Region Cost	Farmer Pays (70%)	Policy Pays (30%)
1	Drip irrigation system	8000.0	32000000.0	8000.0	32000000	22400000.0	9600000.0
2	Soil mulching and conservation	1500.0	6000000.0	7500.0	30000000	21000000.0	9000000.0
3	Pruning and tree management	1000.0	4000000.0	5000.0	20000000	14000000.0	6000000.0
4	Grafting/new drought-tolerant varieties	3000.0	12000000.0	3000.0	12000000	8400000.0	3600000.0
5	Digital tools (e.g., moisture sensors)	1200.0	4800000.0	1200.0	4800000	3360000.0	1440000.0
6	TOTAL (Farm Management)	14700.0	58800000.0	73500.0	294000000	205800000.0	88200000.0
7	TOTAL (Farm Management)				392800000	274960000.0	117840000.0

5-Year Policy Actor Costs

		EUR per farm	Total for Region (EUR)	5-Year Cost per Farm	5-Year Region Cost	Policy Pays (100%)
1	Insurance subsidy support	1000.0	4000000.0	5000.0	20000000	20000000
2	Training and advisory services	500.0	2000000.0	2500.0	10000000	10000000
3	TOTAL (Policy Actors)	1500.0	6000000.0	7500.0	30000000	30000000
4	TOTAL (Policy Actors)				60000000	60000000

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9 Production alternatives for farms

➔ **Are there attractive production alternatives for Olive farmers which are less dependent on water**

There are several attractive production alternatives for olive farmers—particularly in drought-prone Mediterranean areas like Terres de l'Ebre—that are less water-dependent and can offer stable income, ecosystem benefits, or diversification potential.

Here's a categorized overview:

Perennial Crops (Low Water Demand)

1. Carob (Ceratonia siliqua)

Very drought-tolerant, thrives in marginal soils.

Used in natural sweeteners, animal feed, and as a cocoa substitute.

Rising demand due to gluten-free and vegan product markets.

Minimal inputs after establishment; can use existing terraces.

Limitations: Long time to full productivity (4-6 years); price fluctuations.

2. Fig Trees

Deep-rooted, low water needs, and well adapted to arid climates.

Can be processed or sold fresh.

High market value in niche and organic markets.

3. Almonds (dry-farmed varieties)

Already common in Catalonia; tolerates drought better than olives, though yields are better with some irrigation.

Global demand has grown, particularly for non-dairy products.

Note: Some varieties (like those in California) are water-intensive, but Mediterranean dryland systems are different.

Aromatic and Medicinal Herbs

4. Lavender, Thyme, Rosemary

Thrive in arid, rocky soils; very low water needs.

Can be **mechanized** for oil production or sold as dried herbs.

Ideal for **organic and agro-tourism** farms.

Plus: Potential for EU eco-scheme payments due to biodiversity benefits.

Complementary Low-Water Activities

5. Beekeeping (Apiculture)

Very low water needs.

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Pairs well with olive groves, wild herbs, and almonds.

Produces honey, wax, pollen, and adds pollination services.

Income potential: Can be significant, especially with organic/niche branding.

Agroforestry and Multifunctional Systems

6. Silvopasture with Goats or Sheep

Combine grazing animals with existing olive or carob trees.

Reduces brush/fire risk and creates an additional revenue stream.

Attractive for CAP support under sustainable land management.

High-Value, Low-Water Processing Crops

7. Caper Bushes (Capparis spinosa)

Grows in rocky, dry soils.

Highly valued in gourmet and Mediterranean cuisine.

Labor-intensive to harvest but commands high market prices.

Diversification Model Example

Crop/System	Water Needs	Income Potential	Time to Maturity	Market Outlook
Carob	Very Low	Medium	4–6 years	Rising (natural foods)
Fig Trees	Low	Medium-High	3–4 years	Niche/export
Lavender/Herbs	Very Low	Medium	1–2 years	Growing (organic)
Beekeeping	Very Low	Medium-High	<1 year	Stable-growing
Silvopasture	Very Low	Medium	<1 year	Resilient + CAP

Transition Strategy

Olive farmers may not need to **fully abandon** olive production. Instead, they could:

Intercrop herbs or carob between olive rows.

Use **abandoned groves** for fig or carob planting.

Add **hives or grazing** to increase revenue per hectare.

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10 Cost/revenue and transition

➔ Diversification model example

Here are two key resources:

1. **A cost/revenue comparison** for drought-resilient alternatives to olive farming (like carob, fig, lavender, and beekeeping).
2. **Transition strategies** that integrate these alternatives into existing olive farms with specific expected benefits.

Cost-revenue comparison

Drought-Resilient Alternatives Comparison

		Water Needs	Years to Maturity	Initial Cost (€/ha)	Annual Maintenance (-	Potential Revenue (€/	Initial Cost (€/apiary)	Annual Maintenance (	Potential Revenue (€/a
1	Carob Trees	Very Low	4	1500	300	1500			
2	Fig Trees	Low	3	2500	500	3000			
3	Lavender/Herbs	Very Low	2	2000	400	2500			
4	Beekeeping (Per Apiary)	Very Low	1				3500	800	4000
5	Silvopasture (Goats/Sheep)	Very Low	1	1800	600	2000			

Olive farm transition strategies

	Strategy	Expected Benefit
1	Intercrop herbs (e.g., thyme, lavender) between olive trees	Generates short-term income; improves biodiversity
2	Plant carob or fig trees in marginal/abandoned groves	Medium to long-term drought-resilient income
3	Add beekeeping as a complementary activity	Boosts income and pollination services with minimal water
4	Introduce goats/sheep for silvopasture in existing groves	Adds revenue and reduces fire risk
5	Apply for CAP eco-scheme support for diversified systems	Access to additional CAP payments

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11 Policy recommendations

Here are concrete policy recommendations to support olive farmers in drought-prone regions like Terres de l'Ebre in transitioning toward more resilient and diversified systems, while maintaining rural livelihoods and environmental services.

1. Targeted Investment Support for Diversification

Objective: Reduce dependency on vulnerable monocultures (e.g. rainfed olives).

Create a "Drought Resilience Grant" under rural development programs (CAP Pillar II) to:

- Co-finance **carob/fig planting** or **aromatic herb establishment**.
- Support **infrastructure** for beekeeping or silvopasture.
- Cover costs of **transition planning or training**.

Example: Up to 70% of eligible costs capped at €20,000 per farm.

2. Expand CAP Eco-Scheme Eligibility

Objective: Reward farms for adopting multifunctional, climate-adapted systems.

Include **mixed groves**, **intercropping**, **pollinator zones**, and **agroforestry** under eco-scheme payments.

Offer **per-hectare payments** for maintaining biodiversity and soil health in diversified systems.

Could range from €60–100/ha annually for eligible practices.

3. Water-Efficiency Innovation Vouchers

Objective: Foster adoption of low-cost drought adaptation tools.

Provide direct grants or vouchers to:

- Buy **drip irrigation kits**, **moisture sensors**, **soil amendments**, or **mobile rainwater tanks**.

Prioritize **small farms** or those in high-risk drought zones.

Use digital eligibility criteria based on "drought vulnerability zones" identified via remote sensing.

4. Technical Support and Demonstration Networks

Objective: Equip farmers with knowledge and reduce transition risks.

Fund **regional advisors** trained in:

- Low-water crop systems,
- Organic/aromatic crop production,
- Beekeeping and agroforestry.

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Support **"demonstration farms"** showcasing viable transitions.

Combine with peer-to-peer exchange visits to boost uptake.

5. Income Stabilization and Risk Management Tools

Objective: Provide income security during the transition.

Expand eligibility for **crop income stabilization tools** to include mixed systems.

Promote **index-based insurance** covering drought severity (not just yield).

Offer **income averaging schemes** to buffer shock years.

Could reduce income volatility by 30-50% in exposed areas.

6. Land Use Zoning and Adaptive Landscape Planning

Objective: Prevent land abandonment and support strategic land uses.

Designate areas as **"resilience transition zones"** where:

- Land use shifts to low-water systems are incentivized,
- Multi-use land rights (grazing + cropping) are facilitated,
- Agro-ecological corridors (pollinator, firebreaks) are supported.

7. Policy Coordination and Monitoring

Objective: Ensure coherence between CAP, climate, water, and biodiversity goals.

Establish **regional drought resilience observatories** to:

- Track water stress and harvest losses,
- Inform payment adjustments and emergency aid,
- Provide early warnings and adaptation guidance.

Summary of Recommendations

Area	Policy Action	Mechanism
Diversification support	Grants for low-water crops, beekeeping, silvopasture	CAP Pillar II
Eco-scheme alignment	Recognize multifunctional systems	CAP Eco-schemes
Smart tools	Subsidized precision tech and irrigation	Innovation vouchers
Knowledge transfer	Advisory services and demo farms	Public extension networks
Risk protection	Expand insurance and income stabilization tools	CAP Risk Management
Landscape planning	Zoning for resilience transitions and multi-use access	Regional land use plans
Adaptive governance	Monitoring, remote sensing, targeted alerts	Regional observatories

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12 Allocation of cost estimates to the various policy initiatives?

Estimated **annual and 5-year costs** for implementing key policy initiatives supporting olive farm resilience in drought-affected regions like Terres de l'Ebre. The figures are based on implementation across ~4,000 farms.

Policy Initiative Cost Estimates

		Estimated Annual Cos	Notes	Total 5-Year Cost (€)
1	Diversification Support Grants	8000000	Grants for low-water crops, beekeeping, silvopasture	40000000
2	Expanded CAP Eco-Schemes	2800000	Per-hectare payments for agroecological practices	14000000
3	Water-Efficiency Innovation Vouchers	2400000	Tools like drip systems, soil moisture sensors	12000000
4	Technical Support & Demonstration Farms	1500000	Advisory staff, demo plots, training programs	7500000
5	Income Stabilization Tools	3000000	Indexed drought insurance, income smoothing	15000000
6	Landscape Planning and Zoning	1000000	Mapping, land classification, planning tools	5000000
7	Monitoring and Early Warning Systems	1200000	Data systems, harvest monitoring, alerts	6000000

13 List of support priorities in support due to budget limitations

To prioritize drought resilience support under budget constraints, it's essential to balance impact, urgency, and cost-effectiveness. Below is a prioritized list of support initiatives, grouped into tiers based on:

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Cost-efficiency (impact per € spent)

Urgency (need to address short-term risk)

Long-term sustainability and system transformation

Tier 1: Core Priorities (Essential and Cost-Effective)

1. Water-Efficiency Innovation Vouchers

Why prioritize: Immediate water-saving impact, helps farmers stabilize yields now.

Cost: €2.4M/year

Impact: Reduces crop stress, fits farms of all sizes.

Recommendation: Fully fund.

2. Expanded CAP Eco-Schemes

Why prioritize: Supports long-term transition toward resilient systems.

Cost: €2.8M/year

Impact: Rewards sustainable practices; scalable and compatible with CAP.

Recommendation: Partially fund or phase-in by targeting most affected zones.

3. Technical Support & Demonstration Farms

Why prioritize: Enables adoption of all other measures. Low-cost but high leverage.

Cost: €1.5M/year

Impact: Increases farmer capacity and adoption rates.

Recommendation: Fully fund; consider regional hubs.

Tier 2: Strategic Investments (Transformative but Higher Cost)

4. Diversification Support Grants

Why prioritize: Supports structural resilience; crucial for vulnerable groves.

Cost: €8M/year

Impact: Enables switch to carob, fig, herbs, beekeeping.

Recommendation: Fund selectively based on climate risk and market potential.

5. Income Stabilization Tools

Why prioritize: Protects farm income during transition/droughts.

Cost: €3M/year

Impact: Crucial for retaining small farms; reduces exit rates.

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Recommendation: Start with pilot program or link to drought index triggers.

Tier 3: Enabling Systems (Medium Priority Under Constraints)

6. Monitoring and Early Warning Systems

Why prioritize: Enables precision targeting of aid; enhances transparency.

Cost: €1.2M/year

Impact: Medium-term payoff.

Recommendation: Delay until initial adaptive measures are in place unless data gap is urgent.

7. Landscape Planning and Zoning

Why prioritize: Strategic but complex; requires multi-stakeholder coordination.

Cost: €1M/year

Impact: Long-term land-use efficiency.

Recommendation: Include in broader rural development plan; not urgent for first 2–3 years.

Summary: Priority Matrix

Policy Measure	Cost (€M/year)	Priority Tier	Recommendation
Water-Efficiency Innovation Vouchers	2.4	Tier 1	✅ Fully fund
CAP Eco-Schemes	2.8	Tier 1	✅ Phase-in
Technical Support & Demonstration Farms	1.5	Tier 1	✅ Fully fund
Diversification Support Grants	8.0	Tier 2	🔄 Targeted funding
Income Stabilization Tools	3.0	Tier 2	🔄 Pilot program
Monitoring and Early Warning Systems	1.2	Tier 3	⏳ Delay/start small
Landscape Planning and Zoning	1.0	Tier 3	⏳ Integrate in later stage

14 Health, Culture and Wealth

➔ **Does a reduction in olive production have an impact on health of low income people, on regional cultural identity and wealth of region?**

A reduction in olive production—especially in traditional Mediterranean regions like Terres de l'Ebre—can have multi-dimensional impacts that go far beyond farm income. These impacts touch on public health, regional identity, and territorial wealth, particularly affecting low-income populations and rural cohesion.

1. Public Health (especially for low-income groups)

➤ **Nutritional access**

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Olive oil, especially extra virgin olive oil (EVOO), is a core element of the Mediterranean diet, which is linked to lower rates of cardiovascular disease, diabetes, and certain cancers.

A sustained drop in production often raises prices (as seen in Spain and Italy recently), making olive oil less affordable, especially for low-income households.

*Example: In 2023, olive oil prices in Spain nearly **doubled**, forcing many to switch to cheaper, less healthy fats.*

➤ **Health inequality risk**

Lower-income populations may already have limited access to fresh produce and healthy fats.

Reduced local supply + higher prices = nutritional downgrading, worsening diet-related health disparities.

2. Cultural Identity and Heritage

➤ **Loss of cultural landscapes**

Olive groves are not just farms—they're part of regional identity, with deep historical and aesthetic value.

In areas like Les Garrigues and Terres de l'Ebre, dry-stone terraces and centuries-old trees are part of the intangible cultural heritage.

These groves are often associated with festivals, gastronomy, traditional knowledge, and family-based land tenure systems.

➤ **Cultural disengagement**

When olive farming becomes nonviable, younger generations may abandon both the land and the traditions.

This can lead to a loss of rural cultural memory, especially in small towns where olive growing has been the main activity.

3. Regional Wealth and Territorial Equity

➤ **Local economy multiplier effects**

Olive farming supports a web of rural activities: oil mills, cooperatives, agrotourism, packaging, and logistics.

A drop in production undermines this ecosystem, especially in areas with few alternatives.

For each €1 earned in olive production, local rural economies may gain €2-€3 in secondary economic activity.

➤ **Worsening territorial inequality**

If olive farming declines in semi-arid regions like Terres de l'Ebre, wealth and employment concentrate in better-watered or urban areas.

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This fuels rural depopulation, reducing public services, increasing abandonment, and accelerating regional imbalances.

Summary Table of Impacts

Domain	Impact of Olive Production Decline
Public Health	Reduced access to healthy fats for low-income groups; rising inequality
Cultural Identity	Loss of traditional practices, family farming, landscape heritage
Regional Wealth	Job losses, collapse of agri-food value chains, rural depopulation
Social Cohesion	Migration of youth, decline in communal rural life

Conclusion

Olive production in drought-prone Mediterranean regions is not only an economic activity—it is a keystone of rural health, culture, and equity. Ensuring its resilience has public health, cultural preservation, and territorial cohesion implications, especially for vulnerable groups.

15 Integrated Policy Report

➔ **Resilience and Policy Responses to Declining Olive Production in Terres de l'Ebre**

Executive Summary Olive production in Terres de l'Ebre is facing growing threats from prolonged droughts, threatening not only local farm incomes but also regional health, culture, and economic stability. This report synthesizes our findings on the scope of the problem, economic data, viable alternatives, costed policy solutions, and strategic priorities for intervention.

1. Economic and Production Overview Catalonia dedicates around 108,000 hectares (14% of its arable land) to olive cultivation, with Terres de l'Ebre being one of the key producing zones. Regional cooperatives like Soldebre produce up to 18 million kg of olives annually. However, recent years have seen up to 65% drops in harvests due to drought, impacting thousands of olive producers.

A detailed analysis estimated the average per-farm cost of implementing a full drought resilience strategy at over €20,000, leading to a regional expenditure of €80 million for 4,000 olive farms over five years.

2. Drought Impacts and Long-Term Risks Long-term drought impacts include:

Reduced tree productivity and soil degradation

Farmer exit and land abandonment

Reduced cooperative efficiency and rural income streams

Depopulation and increased regional inequality

These effects threaten the future viability of olive farming as a regional pillar.

3. Resilience Options for Farmers Viable adaptation strategies include:

Drip irrigation and moisture sensors

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Mulching and pruning for water efficiency

Grafting drought-resistant varieties

Diversification into low-water crops: carob, fig, lavender, and herbs

Beekeeping and silvopasture

A 5-year cost/revenue matrix showed promising returns for several alternatives, with carob and lavender offering sustainable low-input options.

4. **Policy Recommendations with Budgeting** The following policy tools were assessed for impact and feasibility:

Initiative	Annual Cost (€M)	Priority
Water-Efficiency Innovation Vouchers	2.4	High
CAP Eco-Scheme Expansion	2.8	High
Technical Support & Demonstration Farms	1.5	High
Diversification Support Grants	8.0	Medium
Income Stabilization Tools	3.0	Medium
Monitoring & Early Warning Systems	1.2	Lower
Landscape Planning and Zoning	1.0	Lower

5. **Priority Strategy Under Budget Constraints** Given limited public funding, the following actions are recommended as core priorities:

Fully fund innovation vouchers, technical support, and partial eco-schemes

Selectively fund diversification grants based on exposure

Defer zoning and full-scale monitoring to later phases

6. **Societal and Cultural Implications** The decline of olive farming affects:

Health equity: Rising olive oil prices disproportionately impact low-income households.

Cultural identity: Olive groves and practices are vital to regional heritage.

Regional wealth: Reduced local spending, job losses, and value chain collapse.

Territorial cohesion: Accelerates urban-rural disparity and depopulation.

Conclusion Declining olive production is not just an agricultural problem—it is a multidimensional crisis affecting public health, culture, economic resilience, and equity. Strategic policy investments in drought resilience and diversification are essential to maintain the vitality of olive-growing regions like Terres de l'Ebre.

Next Steps

Engage stakeholders in implementation planning

Align regional CAP funding with these priorities

Launch pilot programs in most affected zones by next planting season

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16 Transition

➔ **Concise summary of the olive farm transition—what it involves and what it aims to achieve**

What the Transition involves

The transition for olive farming in drought-prone regions like Terres de l'Ebre is a multi-step, system-wide shift involving:

1. Adaptation of Olive Production

- Installing drip irrigation and soil moisture systems
- Implementing soil conservation (e.g. mulching, pruning)
- Switching to drought-tolerant olive varieties
- Strengthening risk management with crop insurance and income protection

2. Diversification of Farm Activities

- Introducing low-water alternative crops: carob, fig, lavender, herbs
- Adding beekeeping and silvopasture for ecosystem services and income
- Developing local food products and agro-tourism

3. Support and Enabling Structures

- Access to advisory services and training
- Investment via public subsidies, loans, and innovation vouchers
- Participation in cooperative-driven pilot projects
- Engagement with policy reforms (CAP eco-schemes, landscape planning)

Where the Transition Leads To

If well supported, this transition creates a more resilient, inclusive, and sustainable rural economy, leading to:

Agroecological Resilience

- Farming systems adapted to drought and climate extremes
- Reduced pressure on water resources
- Enhanced soil health and biodiversity

Economic Viability

- More stable and diversified income streams for farmers
- Revitalized rural value chains (e.g. local oil, honey, aromatic products)
- Greater access to eco-scheme payments and specialty markets

Cultural and Territorial Vitality

- Preservation of historic olive landscapes and farming knowledge

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Stronger rural communities with rooted identity

Slowed rural depopulation and improved quality of life

Health and Equity Gains

Continued access to healthy fats (olive oil) for all income groups

Improved nutritional security

Reduced health inequality linked to food access

Summary

The transition is about moving from fragile, drought-exposed monoculture to diversified, climate-resilient farming systems that protect livelihoods, landscapes, and local identity—ensuring olive-growing regions remain vibrant and viable for future generations.

17 Actors for transition support

Supporting farm transitions—particularly in drought-impacted regions like Terres de l'Ebre—requires a multi-actor approach that brings together funding, technical expertise, governance, and community involvement. Here's a breakdown of the key actors and their potential roles:

1. Public Sector Actors

> Catalan Government (Generalitat de Catalunya)

Role: Lead implementation, policy coordination, rural development funding

Agencies:

- *Departament d'Acció Climàtica, Alimentació i Agenda Rural*
- *Oficina del Regant* (irrigation)

Actions: Mobilize CAP Pillar II, define transition zones, oversee landscape planning

> Spanish Ministry of Agriculture, Fisheries and Food

Role: CAP co-financing, national policy alignment, drought monitoring

Actions: Coordinate national insurance schemes, disaster relief mechanisms

> European Union (DG AGRI, DG CLIMA)

Role: Provide structural funds (EAFRD, CAP), define eco-schemes and resilience criteria

Actions: Fund innovation, agroecology, water efficiency, and climate adaptation pilots

> Local Governments (Comarcal and Municipal Councils)

Role: Spatial planning, community engagement, and land use enforcement

Actions: Support zoning, promote local branding and short food chains

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2. Farmers and Farmer Organizations

> Individual Farmers and Smallholders

Role: Implement adaptive practices, participate in pilot projects

Needs: Access to finance, training, peer learning

> Agricultural Cooperatives (e.g. Soldebre, Les Garrigues)

Role: Aggregators of supply, investment, training platforms

Actions: Lead collective transition efforts, market diversified products

> Farmer Unions (e.g. Unió de Pagesos)

Role: Advocate for fair support, provide policy feedback

Actions: Represent interests in CAP negotiations, organize information campaigns

3. Research and Technical Institutions

> IRTA (Institut de Recerca i Tecnologia Agroalimentàries)

Role: Lead R&D in drought-tolerant varieties, water-efficient systems

Actions: Field trials, extension services, farmer decision tools

> Universities (e.g. University of Lleida, Rovira i Virgili)

Role: Research on agroecology, economics, social innovation

Actions: Monitor impact, co-design transitions with communities

4. Financial and Development Actors

> Catalan Institute of Finance (ICF) and Rural Credit Cooperatives

Role: Provide credit for diversification, infrastructure, and insurance

Actions: Offer low-interest green loans and transition financing

> Insurance Companies (e.g., Agroseguro)

Role: Provide index-based drought insurance and income protection

Actions: Integrate with CAP risk management tools

> Philanthropic Funds and Foundations

Role: Fill gaps in rural innovation or cultural heritage preservation

Examples: MAVA Foundation, European Climate Foundation

5. Civil Society and NGOs

> Environmental NGOs (e.g., SEO/BirdLife, WWF Spain)

Role: Advocate for biodiversity-friendly transitions and ecosystem services

Actions: Support conservation olive groves, promote pollinator systems

> Cultural Heritage and Landscape NGOs

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Role: Preserve traditional terraces, promote agro-cultural tourism

Examples: Fundació el Solà, Espais Naturals Protegits

> Consumer and Solidarity Economy Movements

Role: Promote fair-trade olive oil and community-supported agriculture (CSA)

Actions: Build short value chains and consumer awareness

6. Private Sector and Innovation Actors

> Agri-Tech Startups and Service Providers

Role: Provide precision irrigation, monitoring, and forecasting tools

Actions: Offer subscription models and demo installations

> Food Industry Buyers and Retailers

Role: Secure resilient olive oil supply chains

Actions: Offer long-term contracts or premiums for sustainable practices

Summary Table: Key Actor Roles

Actor Type	Example Entities	Role in Transition
Public Sector	Generalitat, Ministry, EU DG AGRI	Funding, policy, governance
Farmers & Cooperatives	Soldebre, Unió de Pagesos	Practice change, local coordination
Research Institutions	IRTA, University of Lleida	Innovation, impact monitoring
Financial Sector	ICF, Agroseguro, Credit Cooperatives	Financing, risk-sharing
Civil Society & NGOs	WWF, SEO/BirdLife, local heritage groups	Ecosystem restoration, cultural identity
Private Sector & Retailers	Agri-tech firms, food retailers	Technology, market support

18 Investments during 5 year transition period by farms and other groups

➔ Detailed breakdown of the estimated investments required over the 5-year transition period, categorized by activity and responsible investor group (e.g., farmers, public policy, EU funds).

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5-Year Transition Investments By Actor

		Investor	5-Year Regional Cost (
1	Drip Irrigation and Moisture Sensors	Farmers (70%) + Policy (30%)	36800000
2	Soil Conservation (mulching, pruning)	Farmers (70%) + Policy (30%)	10000000
3	Drought-Resistant Tree Grafting	Farmers (70%) + Policy (30%)	12000000
4	Crop Diversification Support Grants	Policy (Public Sector)	40000000
5	Beekeeping and Silvopasture Start-up	Farmers (50%) + Policy (50%)	8000000
6	Technical Advisory and Demonstration Farms	Policy (Extension Services)	7500000
7	Eco-Scheme Payments for Sustainable Practices	EU/CAP Funds	14000000
8	Income Stabilization Tools and Insurance	Policy (Insurance Subsidy + CAP)	15000000
9	Monitoring and Landscape Planning	Policy (Public Planning Authorities)	11000000

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➔ **Breakdown by year**

Full Category-Year Investment Breakdown

	Investment Category	Year 1	Year 2	Year 3	Year 4	Year 5
1	Drip Irrigation and Moisture Sensors	22080000.0	11040000.0	1840000.0	1104000.0	736000.0
2	Soil Conservation (mulching, pruning)	2000000.0	2000000.0	2000000.0	2000000.0	2000000.0
3	Drought-Resistant Tree Grafting	6000000.0	3600000.0	1200000.0	600000.0	600000.0
4	Crop Diversification Support Grants	12000000.0	12000000.0	8000000.0	4000000.0	4000000.0
5	Beekeeping and Silvopasture Start-up	3200000.0	2400000.0	1200000.0	800000.0	400000.0
6	Technical Advisory and Demonstration Farms	1500000.0	1500000.0	1500000.0	1500000.0	1500000.0
7	Eco-Scheme Payments for Sustainable Practices	2800000.0	2800000.0	2800000.0	2800000.0	2800000.0
8	Income Stabilization Tools and Insurance	2250000.0	3000000.0	3750000.0	3000000.0	3000000.0
9	Monitoring and Landscape Planning	1100000.0	2200000.0	2750000.0	2750000.0	2200000.0

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➔ **Breakdown per farm investment**

Per-Farm Investment Breakdown (EUR)

	Investment Category (	Year 1	Year 2	Year 3	Year 4	Year 5
1	Drip Irrigation and Moisture Sensors	5520.0	2760.0	460.0	276.0	184.0
2	Soil Conservation (mulching, pruning)	500.0	500.0	500.0	500.0	500.0
3	Drought-Resistant Tree Grafting	1500.0	900.0	300.0	150.0	150.0
4	Crop Diversification Support Grants	3000.0	3000.0	2000.0	1000.0	1000.0
5	Beekeeping and Silvopasture Start-up	800.0	600.0	300.0	200.0	100.0
6	Technical Advisory and Demonstration Farms	375.0	375.0	375.0	375.0	375.0
7	Eco-Scheme Payments for Sustainable Practices	700.0	700.0	700.0	700.0	700.0
8	Income Stabilization Tools and Insurance	562.5	750.0	937.5	750.0	750.0
9	Monitoring and Landscape Planning	275.0	550.0	687.5	687.5	550.0

19 Coordination of activities

➔ **Is there a coordination mechanism in place which could coordinate activities**

Currently, no single, integrated coordination mechanism exists in Catalonia or Spain that fully aligns the diverse activities required for an effective olive farm transition in regions like Terres de l'Ebre. However, there are foundations to build on, and a coordinated framework could be established by leveraging and expanding existing structures:

Existing Partial Mechanisms

1. CAP Implementation Framework (Catalan Government)

Managed by the *Departament d'Acció Climàtica, Alimentació i Agenda Rural*

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Coordinates subsidies (Pillar I eco-schemes, Pillar II investments)

Limitations: Mostly administrative; does not actively steer transition strategies or coordinate multiple actors.

2. Agri-Cooperatives and Local Action Groups (LAGs)

Examples: **Soldebre**, **Les Garrigues Cooperative**, rural *LEADER* groups

Coordinate among producers, provide training, invest in equipment

Limitations: Focused on immediate needs and marketing, not strategic landscape-level transitions.

3. IRTA + Research-Agriculture Platforms

Catalonia's agri-research institution (IRTA) conducts R&D, pilot projects, and works with cooperatives

Limitations: Project-based, lacks mandate to coordinate policy-farmer-investment flows.

4. Terres de l'Ebre Biosphere Reserve (UNESCO)

Already includes environmental planning, local development, and cultural heritage coordination

Potential: Could serve as a territorial anchor for integrated planning and monitoring

What a New Coordination Mechanism Could Look Like

Proposed Structure: Terres de l'Ebre Olive Transition Task Force

Element	Description
Lead Coordinator	Generalitat de Catalunya (Rural and Climate Action Departments)
Regional Hub	Based at Terres de l'Ebre Biosphere Reserve or a lead cooperative
Members	Farmers, cooperatives, IRTA, local councils, NGOs, financial institutions
Key Functions	
- Strategy alignment	Translate regional targets into local action plans
- Project pipeline management	Coordinate public-private investments and pilot farms
- Data and monitoring	Link weather/harvest data to funding triggers (e.g., drought thresholds)
- Capacity building	Run training, tech trials, transition planning workshops
- Communication platform	Share success stories, investment readiness data, and market info

This Task Force could also apply for **EU Green Deal Missions**, LIFE projects, or Horizon Europe funding.

Next Steps Toward Coordination

1. **Policy endorsement**: Generalitat formally recognizes the transition need and designates lead authority.
2. **Stakeholder mapping**: Identify and invite actors across sectors and scales.
3. **Pilot coordination body**: Launch as a regional resilience working group (e.g., under Biosphere Reserve).
4. **Digital platform**: Create a shared dashboard for projects, indicators, and funding coordination.

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Conclusion

While existing structures (cooperatives, CAP frameworks, research bodies) offer partial support, a dedicated, multi-actor coordination mechanism is needed to steer olive farm transitions strategically. A Terres de l'Ebre Olive Transition Task Force could unify stakeholders and maximize public-private synergies.

➔ **Proposal for a coordination mechanism that could be established**

Below is a **proposed coordination mechanism** to guide and align drought resilience and transition efforts for olive farming in **Terres de l'Ebre** over a 5-year period.

Proposed Coordination Mechanism:
Terres de l'Ebre Olive Transition Coordination Council (TOTCC)

Purpose

To coordinate public and private actions supporting the climate-resilient transition of olive farming, ensuring effectiveness, equity, and coherence across funding, implementation, and monitoring.

Structure and Governance

Level	Role	Lead Actor
Strategic Board	High-level decisions, funding alignment	Generalitat (Dept. Rural & Climate)
Technical Steering Unit	Day-to-day planning, coordination, reporting	IRTA + Local Coordination Office
Regional Working Groups	Field-level coordination in subzones	Cooperatives, municipalities
Stakeholder Assembly	Participatory input from farmers, NGOs, advisors	Rotating representatives

Key Functions

1. Planning & Strategy Alignment

Align CAP Pillar II, LEADER, and climate funds with local needs

Develop 5-year "Olive Transition Roadmaps" by subregion

2. Project & Funding Pipeline

Vet and prioritize local investment projects (e.g., irrigation, diversification)

Match projects to EU, national, or philanthropic sources

3. Technical Guidance & Capacity Building

Mobilize IRTA, cooperatives, and advisors for:

- Demo farms
- Farmer training

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- Feasibility studies

4. Monitoring and Evaluation

Track progress via drought indicators, income trends, and farm uptake

Use satellite & sensor data to trigger emergency responses

5. Communication and Engagement

Publicly report outcomes

Highlight successes and challenges

Maintain a web dashboard with maps, results, and application tools

Proposed Budget and Support

Area	Annual Budget Estimate	Notes
Coordination Secretariat	€400,000	5 staff, travel, operations
Digital Infrastructure	€150,000	Dashboard, data systems
Technical Expertise Contracts	€200,000	Legal, agro, finance, landscape
Stakeholder Participation	€100,000	Events, translation, facilitation
Total per year	**€850,000**	(5-year total ~€4.25M)

Funding can come from:

EU Recovery funds (NextGenEU, LIFE)

EAFRD technical assistance

National rural innovation programs

Geographical Scope

Terres de l'Ebre (4 comarques): Baix Ebre, Montsià, Terra Alta, Ribera d'Ebre

Focus on high-risk zones with historical olive dependence

Expected Benefits

- Coherent funding flows and reduced duplication
- Faster uptake of climate-resilient practices
- Greater farmer trust and involvement
- Enhanced reporting to the EU and funders

Next Steps to Establish TOTCC

1. Generalitat resolution to create the body and nominate key institutions
2. Establish a founding Working Charter with stakeholder signatories
3. Launch regional consultations to form subregional working groups
4. Open a call for pilot projects under TOTCC coordination

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Appendix A1

Integrated Report: Resilience and Policy Responses to Declining Olive Production in Terres de l'Ebre

Executive Summary

Olive production in Terres de l'Ebre is under threat due to climate-induced droughts. The consequences extend beyond agricu

Regional Olive Sector Overview

Catalonia dedicates approximately 108,000 hectares to olive farming, 14% of its arable land. Terres de l'Ebre is one of its mai

Impact Assessment

> Health: Reduced olive oil supply raises prices, impacting low-income families' access to a key component of the Mediterrane

> Culture: Abandonment of groves leads to loss of cultural landscapes and traditions.

> Economy: Farm exits, cooperative inefficiencies, and loss of value chain resilience.

> Territorial Equity: Drought-related decline in olive farming exacerbates rural-urban divides.

Adaptation Options for Farmers Adaptation strategies include:

> Drip irrigation, mulching, pruning

> Drought-resistant tree grafting

> Crop diversification: carob, fig, lavender, aromatic herbs

> Beekeeping and silvopasture integration

Cost Analysis

Estimated costs for full adaptation on 4,000 farms:

> One-time and annual investments: irrigation (EUR 8,000), mulching (EUR 1,500), sensors (EUR 1,200), etc.

> Total regional 5-year cost: ~EUR 80 million

> Policy vs farmer burden modeled at 70/30 cost-sharing

Policy Recommendations and Prioritization

Policy measures were prioritized into three tiers based on urgency and cost-efficiency:

> Tier 1 (High): innovation vouchers, eco-schemes, technical advisory

> Tier 2 (Medium): diversification grants, income stabilization

> Tier 3 (Lower): landscape planning, monitoring systems

Proposed Coordination Mechanism: TOTCC

To ensure alignment and effectiveness, we propose a Terres de l'Ebre Olive Transition Coordination Council (TOTCC):

> Strategic Board: Generalitat-led, aligning CAP and climate policy

> Technical Unit: IRTA and local coordination office for day-to-day management

> Regional Working Groups: cooperatives, advisors, local councils

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> Stakeholder Assembly: farmers, NGOs, citizens

Key Functions:

> Align funds and strategies with local needs
> Manage project pipelines and support farmer access
> Monitor resilience indicators and support responses
> Maintain a regional digital dashboard

Budget: EUR 850,000/year (EUR 4.25M over 5 years) from CAP, LIFE, and recovery funds

Broader Societal Impacts

Olive production decline has cascading impacts:

> Public health: Increases dietary inequality
> Cultural heritage: Loss of centuries-old practices
> Economic decentralization: Weakens rural economic resilience
> Social cohesion: Drives out-migration, deepens urban-rural disparities

Conclusion

Olive farming in Terres de l'Ebre must be viewed as a multidimensional policy issue. Maintaining its viability secures food equi

Next Steps

> Establish TOTCC with Generalitat leadership and stakeholder charter
> Launch pilot actions and regional dashboard
> Align CAP measures and funding to support long-term transition

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Appendix A2

Proposal for creation of a multi-actor coordination body that ensures efficient, equitable, and climate-smart transitions in olive farming across Terres de l'Ebre.

Structure:

> Strategic Board: Led by Generalitat (Dept. of Rural Affairs & Climate), aligning public policy and CAP implementation.

> Technical Steering Unit: Managed by IRTA and a local coordination office for operational planning and support.

> Regional Working Groups: Comprised of cooperatives, advisors, and local councils for on-the-ground implementation.

> Stakeholder Assembly: Represents farmers, NGOs, and citizen groups to ensure participation and transparency.

Functions:

1. Align public funding with local transition roadmaps.
2. Vet and coordinate investment projects across olive-growing zones.
3. Deliver farmer training, demonstration farms, and innovation support.
4. Track resilience indicators (harvests, drought stress, income).
5. Maintain a regional digital dashboard for transparency and coordination.

Estimated Budget:

> EUR 850,000/year for operations, digital systems, and stakeholder engagement.

> Total: EUR 4.25 million over 5 years, funded via CAP, LIFE, or Recovery funds.

Benefits:

> Increased farmer confidence and uptake of adaptive measures. Smarter use of EU and national funds with less overlap.

> Strengthened territorial equity, health, and cultural resilience.

Next Steps: 'Generalitat' initiates formation with stakeholder invitations.

> Charter signed and pilot subregional working groups established.

> Launch project call and coordination platform by Year 1.

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