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### Deliverable 6.3: White Paper

**Governing Just Sociotechnical Transitions: A Co-productionist Model of Sustainable Futures in the Agrifood sector**

Project Acronym: Go-JuST

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# White Paper

## 1. Executive Summary

This White Paper presents the consolidated findings and policy recommendations that emerged from the research project “Governing Just Socio-Technical Transitions (Go-JuST)”, funded by the Hellenic Foundation for Research and Innovation (HFRI). The project was implemented in two main research phases: the mapping of injustices and the co-creation of future transition pathways. During the injustice mapping phase, the research team conducted extensive interviews with more than 50 producers and organized 13 focus groups with farmers, representatives of TOEVs (Local Irrigation Organizations), cooperative members, and agronomists. In total, over 100 cultivators and primary sector professionals contributed their experience and insights during this stage. In the second phase, through five regional workshops held in Larissa, Karditsa, Trikala, and Volos, more than 180 participants (including farmers, cooperatives, agronomists, researchers, and local officials) collaborated in shaping shared visions for the transition of Thessaly’s agri-food system. The process revealed widespread distrust toward national and EU agricultural policies, accompanied by frustration regarding bureaucracy, taxation, and the lack of infrastructures and incentives for farm continuity. Despite skepticism, participants across all workshops shared a clear acknowledgment: transformation is necessary. Farmers, cooperatives, and experts recognized that the sustainability of agriculture in Thessaly requires structural reform, especially in irrigation, education, market access, and institutional coordination. The Region of Thessaly emerged as a key actor in this transition. Stakeholders expect it to play a central role in guiding and coordinating policies, in organizing education and training, and in mediating innovation, thereby strengthening collaboration among producers, scientific institutions, and cooperatives. The participatory process confirmed that Thessaly’s agricultural transformation cannot rely solely on subsidies; it requires new governance structures, transparent planning, and long-term investments in knowledge and infrastructure.

The injustice mapping revealed a complex web of distributive, procedural, and recognitional injustices within Thessaly’s agri-food system. These injustices concern:

- unequal access to water and energy,
- spatial and institutional inequalities between Eastern and Western Thessaly,
- lack of transparency and erosion of trust in collective governance institutions,
- exclusion of farmers’ knowledge and their limited participation in decision-making processes, and
- social vulnerability linked to demographic aging, indebtedness, and precarious labor conditions.

The analysis showed that the three forms of injustice — distributive, procedural, and recognitional — coexist and interact across all major domains of Thessaly’s agri-food system, particularly in water management, land use and crop practices, and community resilience. These injustices are not isolated phenomena; they form interdependent layers that continuously reproduce vulnerability and inequality within local production systems.

- Distributive injustices are most evident in the allocation of natural resources and infrastructures. Inequalities are also observed in land productivity, market opportunities, and access to financial or technical support. Policies that integrate fair resource distribution, through inter-basin connectivity, balanced zoning, and energy democratization, are essential to restore material justice.
- Procedural injustices permeate the entire framework of governance and decision-making institutions. The fragmentation of competences and opaque subsidy mechanisms have eroded trust and excluded farmers from policy formulation. A just transition requires transparent governance, participatory mechanisms, and accountability frameworks that embed farmers and cooperatives into regional decision-making processes.
- Recognitional injustices stem from the undervaluation of local knowledge, cultural identity, and experiential expertise. Farmers’ understanding of soil, water, and crop adaptation is rarely incorporated into official planning, while local practices are often dismissed as “outdated” rather than valued as sources of knowledge. Recognition, therefore, is not symbolic but material and political. Integrating local expertise into crop zoning, seed governance, and ecological practices acknowledges farmers as co-producers of innovation and strengthens policy legitimacy.

Taken together, these dimensions demonstrate that the pursuit of a just transition in Thessaly’s agri-food system demands a systemic and multi-level approach. Each thematic domain — whether related to water, crops, or community resilience — must simultaneously incorporate all three forms of justice:

- equitable distribution of resources (distributive),
- participatory and transparent decision-making (procedural), and
- recognition of local identities and knowledge (recognitional).

The six policy domains of the White Paper aim to establish an operational framework that translates the findings of the injustice mapping into cross-sectoral reform pathways for change. The proposed new governance model places justice at the core of Thessaly’s agri-food transformation.

Six interrelated policy domains:

1. **Irrigation and Water Resource Management** – ensuring equitable access, efficient use, and infrastructural modernization.
2. **Crop Restructuring and Land Use Management** – promoting diversification, zoning, and sustainable crop systems.
3. **Energy Transition and Infrastructure Modernization** – reducing energy costs and integrating renewables in agricultural operations.
4. **Governance and Institutional Reform** – enhancing coordination between ODYTH (Thessaly Water Management and Distribution Organisation), TOEVs (Local Irrigation Organization), and regional actors through transparent decision-making.
5. **Community Resilience and Labor Systems** – building local capacity, fair labor management, and adaptive practices to climate and market risks.
6. **Innovation, Knowledge Transfer, and Education** – establishing training programs, participatory research, and long-term strategic foresight for Thessaly’s agri-food system.

The findings highlight that a just and pragmatic transition is not only feasible but also necessary, a transition grounded in justice, transparency, and the collective intelligence, experience, and knowledge of Thessaly's rural communities.

## 2. Background and Methodology

Between January and March 2025, a series of five consultation events were held across Thessaly in Larissa, Karditsa, Trikala, and Volos, bringing together approximately 180 participants. Sixteen focus-group workshops were organized under a mixed participatory methodology that combined pre-designed scenarios (derived from existing regional and national proposals) and co-creation exercises through which participants collectively constructed their preferred vision for Thessaly's agri-food future. The process was designed to avoid politicization: participants were not informed about which scenarios aligned with specific institutional or expert proposals. Instead, they were invited to discuss trade-offs, identify barriers, and propose hybrid solutions by merging elements from multiple scenarios. The workshops explored critical questions around water management, crop restructuring, climate adaptation, and socio-economic justice in the agricultural transition. Each scenario represented an idealized pathway, from maintaining the status quo to adopting deeply transformative agro-ecological practices. Participants were encouraged to think about the medium-term horizon up to 2030 and beyond, aligning their preferences with both regional realities and European Green Deal objectives.

### Key Tendencies Observed

1. **Widespread distrust toward public agricultural policy** – Many participants expressed fatigue and disappointment with recurrent reforms perceived as detached from real farm conditions. EU and national CAP policies were often viewed as overly bureaucratic, shifting priorities without adequate consultation or technical support.
2. **Pessimism toward the future, yet pragmatic acceptance of change** – While farmers voiced concern over taxation, climate risks, and the cost of inputs, most accepted that adaptation is inevitable and that collective organization could mitigate uncertainty.
3. **Central role of the Region of Thessaly** – Stakeholders consistently identified the Region as the institution best positioned to guide education, coordinate training programs, and support value chain development. Expectations include leading initiatives in irrigation modernization, digital governance, and export-oriented branding.
4. **Emerging convergence on mixed transformation pathways** – Participants favored neither radical eco-scenarios nor strict productivist continuity. The most widely supported scenario was an intermediate one: maintaining approximately 2.83 million irrigated stremmas until 2040, ensuring water availability through both Acheloos transfer and local storage infrastructure, while promoting efficiency, zoning, and sustainable practices.

### Scenario-Based Consensus

The third scenario reflecting expert proposals by the Region of Thessaly, emerged as the preferred pathway. It combined:

- rational expansion of irrigated areas under clear ecological limits,
- reinforcement of existing irrigation networks through new infrastructure,

- continued cultivation of key crops such as cotton,
- modernization of TOEVs within the future ODYTH framework, and
- gradual alignment with Farm-to-Fork objectives on pesticides, fertilizers, and biodiversity.

## Methodological Focus

The workshops applied a bottom-up co-design framework: participants engaged in deliberative discussions around distributive, procedural, and recognitional justice. Through structured dialogues, they articulated how inequalities in access to water, knowledge, and market opportunities could be mitigated by more inclusive policies. The method generated both quantitative results (scenario selection rates, thematic priorities) and qualitative narratives (quotes, collective reasoning). The resulting synthesis informs this white paper’s policy recommendations, translating local visions into coherent regional strategies.

## 3. Regional Analysis and Findings

### 3.1 East–West Divide: Divergent Dynamics of Adaptation

The consultation revealed a clear divide between Eastern and Western Thessaly in their attitudes toward innovation, risk-taking, and adaptability to change.

- **Eastern Thessaly (Larissa–Farsala–Almyros):** Farmers displayed dynamism, willingness to experiment with new technologies, and readiness to follow a coherent strategy provided there is clear vision, guidance, and institutional support. Many emphasized that change requires an operational mechanism and financial stability, as well as trust between farmers, cooperatives, and the Region.
- **Western Thessaly (Karditsa–Trikala):** Producers appeared more conservative and risk-averse, often skeptical of adopting new crops or digital systems. With some exceptions, they remain tied to traditional cotton and alfalfa production, citing the lack of viable alternatives and mistrust in collective market structures. This restraint partly stems from water abundance and the ease of traditional surface irrigation, especially in TOEV Tavropos zones.

The Region thus faces the challenge of balancing differentiated capacities and expectations. Development strategies must recognize these spatial asymmetries—mobilizing innovation where readiness exists, while investing in capacity building where trust and knowledge remain weak.

### 3.2 Magnesia: The Olive Landscape and Lost Patience

In Magnesia, and particularly in Pelion and South-West Magnesia, olive producers expressed both hope and fatigue. Despite the symbolic success of the Zagora Cooperative, many producers in nearby areas have lost confidence in the cooperative model, struggling with market access and limited institutional support. Still, there is a clear awareness of quality potential: hand harvesting, traditional methods, and small-scale production remain the norm. Farmers recognize that premium olive oil quality measured in phenolic content and acidity could become their main competitive advantage if supported by credible certification and marketing mechanisms.

### 3.3 Trust, Governance, and Institutional Expectations

A consistent message across all workshops was the erosion of trust toward both national agencies and private intermediaries. Farmers repeatedly emphasized the need for:

- **transparent governance**, especially in irrigation management and subsidy distribution;
- **effective local mediation**, ensuring that regional and national decisions are grounded in field realities;
- and **stable, rule-based systems** that minimize clientelism and political uncertainty.

The Region of Thessaly is perceived as a potential guarantor of coherence, provided it can combine administrative competence with participatory governance. Participants called for clear communication channels between the Region, ODYTH, TOEVs, cooperatives, and the research sector, advocating a “networked regional governance” model that values both expertise and local knowledge.

### 3.4 Irrigation Culture and Water Justice

Water was the dominant issue in all discussions. Participants strongly defended the maintenance of irrigated lands as the backbone of Thessaly’s economy and identity. They see irrigation not only as a technical issue but as a **social right** and **collective good**.

Two perspectives emerged:

- In Eastern Thessaly, where water scarcity is chronic, irrigation is perceived as an issue of **distributive justice**—fair access between regions, between users, and between surface and groundwater sources.
- In Western Thessaly, the focus was on **maintenance and efficiency** rather than access, with concerns about governance and the sustainability of local TOEVs.

There was broad consensus on the need for **inter-basin water transfer**, especially the **partial Acheloos diversion**, combined with smaller-scale works (reservoirs, check dams, interconnections) and the modernization of existing networks. Participants also recognized the limits of this approach and supported parallel measures for efficiency and digital monitoring.

### 3.5 Zoning, Crop Systems, and Market Orientation

The concept of **zoning** generated both enthusiasm and resistance.

- **Eastern Thessaly:** Many farmers already practice informal zoning, adapting crops to local soil and water constraints. They support organized crop zoning as a tool for value creation and product differentiation, especially when linked to **compensatory incentives** or insurance mechanisms (e.g., ELGA).
- **Western Thessaly:** Farmers were more skeptical, fearing administrative constraints and loss of autonomy. They argued that “the producer is an entrepreneur who knows what to cultivate.”

Nevertheless, even among skeptics, zoning was not rejected outright—it was accepted as a potential instrument if designed **with local participation**, flexible criteria, and compensation for income differences.

### 3.6 Crop-Specific Insights

#### **Cotton (irrigated):**

Cotton remains a cornerstone of Thessaly’s agri-food system. Participants agreed that it should not be phased out but **upgraded** through quality schemes (EU Cotton, PGI labels) and fairer valuation mechanisms that involve producers directly in price formation. The lack of trust toward ginning companies is a major obstacle; addressing it through transparent testing and participatory evaluation could anchor a high-value cotton brand.

#### **Legumes and Fodder Crops:**

Local varieties of chickpeas and lentils require targeted support to counter imported seeds unsuited to local soils. Farmers proposed consumer awareness campaigns emphasizing the environmental and health benefits of Greek legumes. **Alfalfa** (μηδική) was seen as both ecologically valuable and economically critical for livestock systems, though water-intensive. Support for its cultivation as part of circular livestock systems—especially in islands depending on Thessalian feed—was recommended.

#### **Olive and Tree Crops:**

Producers seek a shift toward **collective quality protocols**, harmonizing practices from cultivation to processing. They requested regional coordination for residue testing, phenolic analysis, and branding strategies. A key demand was for a **quality certification protocol for tree crops**, covering harvesting, processing, and environmental care, as a foundation for PDO/PGI status and premium pricing.

### 3.7 Quality, Cooperation, and Market Access

Quality was a recurring theme across all crops. Farmers in Eastern Thessaly, especially around Larissa and Farsala, show higher willingness to invest in quality improvement and traceability, while in the West, skepticism persists. Across regions, the lack of **distribution networks** and **market power** emerged as structural barriers. Participants underlined the need to **strengthen cooperatives** as “cultural institutions” rather than mere marketing vehicles. The most successful examples (ThesGi, ThesTo, AS Zagoras), demonstrate how social trust, education, and professional management can transform local economies. Farmers requested targeted support for cooperative restructuring and the creation of clusters focusing on export-oriented and certified production.

### 3.8 Demographic and Cultural Dimensions

Younger farmers and part-time professionals exhibited greater openness to innovation, particularly regarding digital technologies and agro-environmental schemes. Older, full-time farmers were more hesitant, prioritizing stability and incremental change. Despite differences, both groups acknowledged that modernization and sustainability are unavoidable under climate change pressures.

### 3.9 Synthesis of Regional Tendencies

Across all regions, three unifying narratives emerged:

1. **Thessaly needs a coherent long-term plan** that aligns infrastructures, education, and policy instruments toward sustainable intensification.
2. **Trust and transparency** are prerequisites for any reform—particularly concerning water governance and subsidy allocation.
3. **Knowledge transfer and education** are the most powerful levers for a fair transition, linking farmers with scientific institutions and markets.

## 4. Strategic Challenges

The participatory process in Thessaly unveiled a set of **structural, environmental, and institutional challenges** that define the region’s agricultural transformation. These challenges interweave economic pressures, infrastructural deficiencies, social inequalities, and governance failures. Together, they form the landscape within which any future policy must operate.

### 4.1 Water Deficit and Irrigation Inequality

The chronic water imbalance remains the single most critical challenge for Thessaly’s agri-food future. The region depends heavily on irrigation to sustain its crops, yet faces an estimated annual deficit of over 400 million cubic meters. Climate change further aggravates the situation: projections indicate a 30% decline in precipitation and a 10% rise in irrigation demand by 2040.

This imbalance produces distributive injustices:

- Eastern Thessaly suffers from water scarcity, relying excessively on groundwater extraction.
- Western Thessaly enjoys greater surface water access through reservoirs such as Tavropos, creating spatial inequities.

Addressing these disparities requires coordinated basin management, combining large-scale interventions (such as the partial diversion of Acheloos) with localized infrastructures (check-dams, reservoirs, recharge works, and interconnections). However, physical solutions must be matched by institutional reforms, transparent allocation protocols, participatory monitoring, and integration of digital water governance tools.

## 4.2 Energy Costs and Infrastructural Gaps

Farmers identified energy costs as one of the most immediate threats to their viability. Rising electricity prices have made water pumping and irrigation increasingly unaffordable, particularly for TOEVs dependent on diesel generators. Many cooperatives attempted to develop photovoltaic parks, but regulatory and financial barriers prevented their implementation. The challenge is thus not only technical but systemic: energy inefficiency deepens regional inequalities. Producers without access to electrified irrigation networks pay disproportionately higher costs. A comprehensive solution must combine energy transition measures (renewables, energy communities, efficiency upgrades) with regulatory reform to guarantee stable tariffs and grid capacity dedicated to agricultural use.

## 4.3 Market Dependence and Value Chain Fragmentation

Thessaly's agri-food economy remains dependent on a few high-volume, low-value crops—cotton, corn, and alfalfa—making it vulnerable to price fluctuations and import competition. Smallholders and cooperatives face structural disadvantages: weak bargaining power, fragmented logistics, and limited processing capacity. Farmers repeatedly highlighted the absence of predictable market outlets and collective marketing structures capable of sustaining fair prices. The challenge, therefore, is to rebuild value chains around quality, identity, and cooperation. Integrating local products into PDO/PGI systems, fostering short supply chains, and creating clusters of producers and processors can retain more value in the region.

## 4.4 Erosion of Trust and Institutional Fragility

Distrust permeates relationships between farmers, cooperatives, and public institutions. The legacy of mismanagement in some TOEVs and opaque subsidy distribution eroded confidence in collective schemes. Similarly, bureaucratic complexity discourages farmers from participating in programs requiring certification or monitoring. The creation of ODYTH (Unified Water Management Organization) is widely seen as an opportunity to restore trust—provided it embeds local representation, transparency, and efficiency. Farmers fear losing proximity and responsiveness if local TOEVs are absorbed without ensuring community participation. Institutional reform must, therefore, balance central coordination with local autonomy.

## 4.5 Knowledge Gaps and Weak Advisory Services

Another structural challenge concerns the disconnection between research, education, and practice. The decline of public agricultural extension services has left farmers dependent on private input suppliers for technical advice, often biased toward commercial products. The lack of trusted advisory systems hampers the adoption of new techniques, organic methods, or integrated pest management. A renewed public advisory network, co-managed by the Region, ELGO–DIMITRA, and cooperatives, could fill this gap. Farmers emphasized the need for hands-on, field-based training—especially in irrigation efficiency, digital farming, and quality certification.

## 4.6 Demographic Aging and Labor Shortages

The average age of Thessalian farmers continues to rise, while rural youth migration depletes local human capital. Seasonal labor shortages, particularly in olive and fruit harvesting, intensify dependence on migrant workers. Participants called for a formalized agricultural labor framework, including training, certification, and housing programs for seasonal workers, coordinated by cooperatives and municipalities.

## 4.7 Governance Complexity and Policy Incoherence

Finally, Thessaly’s agricultural governance suffers from fragmentation across multiple administrative levels: regional, national, and EU. Overlaps between ministries, agencies, and funding mechanisms create confusion and delay. Policies on irrigation, energy, and rural development often operate in isolation. The challenge is to construct a cohesive multi-level governance framework, integrating water management, agricultural policy, and climate adaptation under the coordination of the Region. Institutional simplification and participatory decision-making are prerequisites for effective implementation of any transition strategy.

In summary: The transformation of agricultural production in Thessaly is constrained by four interrelated deficits:

- a **water deficit**, rooted in both hydrology and governance;
- an **energy deficit**, increasing production costs and inequalities;
- a **trust deficit**, undermining collective action; and
- a **knowledge deficit**, limiting innovation and adaptability.

Addressing these simultaneously is the key to building a just, resilient, and forward-looking agri-food system.

## 5. Policy Recommendations

### 5.1. Irrigation and Water Resource Management

Water governance is the cornerstone of Thessaly’s agricultural transformation. Every stakeholder, from cotton growers in Farsala to olive producers in Magnesia, identified irrigation as both a technical and social question, one that embodies distributive, procedural, and recognitional justice. The

recommendations below aim to reconcile ecological constraints with the practical needs of farming communities, ensuring equitable access and transparent management of water as a common good.

### ***5.1.1 Inter-basin Connectivity and Infrastructure Development***

A coherent regional water plan should integrate both **large-scale and decentralized infrastructures**.

- **Inter-basin linkages** between Eastern and Western Thessaly must be prioritized to correct the long-standing hydrological imbalance. The strategy includes a combination of *small and medium-scale works* (reservoirs, retention structures, artificial recharge systems) and, where feasible, the *partial diversion of Acheloos*.
- The Region should coordinate the Thessaly Basin Connection Program, which will manage the cumulative effects of these works, ensuring ecological flows while providing equitable supply to irrigation zones.

These measures address distributive injustices by balancing water availability across regions, procedural injustices by requiring multi-level coordination between ODYTH, TOEVs, and local communities, and recognitional injustices by integrating local hydrological knowledge and agricultural practices into design and implementation.

### ***5.1.2 Localized Storage and Check-Dam Networks***

To complement large infrastructures, micro-reservoirs and check-dams should be established in mountainous catchments. These works serve dual functions, flood mitigation in winter and water retention for irrigation in summer, while promoting groundwater recharge. Their decentralized nature enables local communities to participate directly in maintenance and monitoring. This measure simultaneously addresses equity in access and resilience by creating local buffers that reduce dependence on deep groundwater extraction.

### ***5.1.3 Rehabilitation and Maintenance of Critical Infrastructure***

Existing infrastructures such as Lake Karla, Gyrtoni, and secondary networks require urgent rehabilitation. Current inefficiencies lead to massive conveyance losses and uneven water distribution. A regional Maintenance and Renewal Program under ODYTH should prioritize upgrading aging canals, replacing open channels with pressurized pipelines, and improving interconnections between basins.

### ***5.1.4 Water Allocation Protocols and Drought Management Plans***

Fair and transparent water allocation rules must be institutionalized:

- **Drought contingency plans** should define thresholds (based on reservoir levels at Tavropos, Smokovo, Karla) that trigger equitable rationing systems among TOEVs.
- **Prioritization frameworks** should classify crops by social and economic importance during shortages.

- All data should be publicly accessible through a digital monitoring platform, allowing farmers to anticipate water availability and adapt their planting decisions.

Such protocols democratize water governance, reducing conflict and reinforcing accountability between users and institutions.

#### ***5.1.5 Digital Monitoring, Telemetry, and Metering***

All water abstractions must be registered in a National Digital Water Registry.

- Mandatory smart meters and telemetry systems should record real-time water use at parcel and network level.
- The data, aggregated and anonymized, will enable transparent allocation, prevent illegal pumping, and support adaptive planning.

These innovations directly tackle procedural injustices, fostering transparency and equality before the law. Enforcement should be balanced with incentives for regularization, allowing farmers with informal boreholes to join the official system under conservation commitments.

#### ***5.1.6 Modernization of Irrigation Networks***

The transition toward closed, underground irrigation systems is indispensable for efficiency and equity.

- Network modernization must include hydraulic rebalancing, pressure optimization, and replacement of leaky open channels.
- TOEVs should receive targeted grants to complete undergrounding projects, particularly where energy-intensive pumping still prevails.
- Drip irrigation should gradually become the universal standard, combining water saving with higher precision.

These upgrades not only reduce physical losses but also diminish energy costs, reinforcing fairness between regions and farmers.

#### ***5.1.7 Energy and Water Nexus***

Water and energy are inseparable in Thessaly's irrigation system. Therefore:

- Introduce a regulated agricultural electricity tariff with a price-stability clause for irrigation use.
- Grant priority grid access to ODYTH for photovoltaic installations dedicated to self-consumption.
- Support energy communities at cooperative or municipal level to manage collective renewable projects.

This framework ensures fair energy access, lowering operational costs and environmental footprint simultaneously.

### ***5.1.8 Institutional Framework: ODYTH (Organization for the Management of Water Resources of Thessaly) and TOEV (Local Irrigation Organization) Reform***

The establishment of ODYTH must preserve the local knowledge and proximity of existing TOEVs.

- Create local ODYTH branches per Regional Unit, merging financially sound TOEVs to ensure administrative efficiency without erasing community participation.
- Each branch should include a Local Water Council composed of elected farmer representatives, engineers, and municipal officials to decide on scheduling, maintenance, and tariffs.
- A permanent technical assistance unit should be established within ODYTH to support project preparation, feasibility studies, and tendering, standardizing procedures and reducing delays.

This institutional structure would transform water management from a fragmented, opaque system into a transparent and participatory governance network rooted in local agency.

## **5.2. Crop Management and Restructuring**

Crop restructuring in Thessaly must pursue a dual goal: to strengthen economic resilience and to reduce ecological vulnerability. The participatory consultations revealed that producers are willing to modernize, provided that reforms respect their knowledge, ensure market access, and minimize transition risks. This section articulates a strategic framework that integrates seed sovereignty, diversification, agro-environmental adaptation, and quality upgrading.

### ***5.2.1 Local Seed Systems and Value Chain Governance***

The revitalization of local seed systems is crucial for both food sovereignty and adaptation to local conditions. Farmers stressed the need for transparent seed control and fair valuation mechanisms that recognize the farmer as a co-developer of varieties.

Key measures include:

- Establishing protected seed-production zones for native and traditional varieties, ensuring genetic diversity and resilience.
- Supporting participatory breeding programs with equal involvement of farmers, cooperatives, and research institutes (ELGO–DIMITRA, University of Thessaly).
- Recognizing farmers' rights to seeds and varieties they co-develop, through community-level registration and shared intellectual property models.
- Creating quality control protocols for cotton and other strategic crops, jointly managed by producer associations and public authorities to ensure fair evaluation and premium pricing.

These measures address recognitional injustices, valuing local knowledge and re-embedding farmers within the innovation chain.

### *5.2.2 Crop Zoning and Spatial Planning*

Zoning is not merely a regulatory exercise but a developmental instrument for building resilient territories.

- A Regional Crop Zoning Plan should be designed collaboratively with cooperatives, producer groups, and research bodies, based on detailed soil and microclimatic assessments.
- Zones should align with value-chain potential, promoting clusters of high-value crops (cotton, legumes, tree crops) and prohibiting land-use conversion in these designated areas.
- Incentives and compensations must accompany zoning: farmers adhering to designated zones should benefit from insurance coverage, priority access to grants, or market guarantees through cooperative contracts.

Such an approach integrates distributive justice (through fair access to support), procedural justice (through participation in planning), and recognitional justice (through acknowledgment of local expertise).

### *5.2.3 Reduction of Chemical Dependency and Just Agro-Environmental Transition*

The transition toward reduced chemical inputs, aligned with EU Green Deal targets of cutting pesticide use by 50% and fertilizer use by 20%, must be socially fair and locally adaptive.

Policy actions should include:

- Geo-morphological tailoring of environmental measures to avoid blanket prohibitions (e.g., plowing bans on slopes) that penalize specific areas unfairly.
- Subsidies for biological pest control and bio-based treatments, mitigating economic risks for farmers during conversion.
- Support for domestic research on resistant varieties that reduce input dependency.
- Equal import standards: ensure that imported food products adhere to the same environmental standards applied within the EU, protecting local producers from unfair competition.

These reforms address both environmental sustainability and the economic justice of transition, ensuring no farmer is left behind.

### *5.2.4 Organic Agriculture and Market Access*

Organic agriculture was broadly accepted by participants as a desirable direction, though skepticism remains regarding certification credibility and market stability. To build confidence and equity, the following measures are proposed:

- Establish exclusive organic production zones to prevent cross-contamination and preserve integrity of organic products.
- Overhaul the certification system, reducing bureaucracy and ensuring strong supervision over certification bodies to enhance reliability.
- Create dedicated organic value chains for cereals, legumes, and feed crops through contractual farming between producers and processors.
- Provide public procurement guarantees for organic products (schools, hospitals, army), securing stable demand and fair prices.
- Offer collective incentives for clusters or cooperatives of organic farmers to reduce certification costs and improve bargaining power.

These interventions strengthen procedural justice, enhance trust, and expand access to value-added markets.

### *5.2.5 Quality Upgrading and Product Identity*

Thessaly's future competitiveness lies in quality differentiation rather than quantity. Participants emphasized the need for credible certification, traceability, and the creation of regional brands that embody sustainability and locality.

Policy priorities include:

- Development of comprehensive quality protocols for tree crops and olives, covering cultivation, harvesting, and processing practices.
- Support for PDO/PGI applications with integrated environmental and health claims (e.g., high-polyphenol olive oil).
- Creation of public-private laboratories for regular testing of soil quality, residues, and product characteristics to document and certify quality at source.
- Promotion of consumer campaigns to highlight the environmental, nutritional, and territorial values of Thessalian products.

Such measures reinforce recognitional justice by valorizing traditional practices and linking local identity to sustainable production.

### 5.2.6 Fair Transition Mechanisms and Risk Sharing

Many farmers expressed fear of income loss during transition to new systems (e.g., organic or low-input farming). Therefore, policy frameworks must embed risk-sharing mechanisms, including:

- Transitional subsidies to compensate for yield reduction.
- Insurance products covering environmental and market risks.
- Access to low-interest loans for conversion investments (e.g., drip systems, new machinery).

Ensuring a “*just transition*” requires more than environmental ambition, it demands financial solidarity, where those adopting sustainable practices are supported, not penalized.

### 5.2.7 Knowledge and Advisory Support

Restructuring also depends on knowledge flows. Farmers asked for practical training rather than theoretical seminars.

- Establish Regional Training Hubs managed by ELGO–DIMITRA and the University of Thessaly to provide continuous professional education.
- Develop digital advisory platforms integrating real-time agronomic data, pest alerts, and irrigation guidance.
- Foster peer-to-peer learning through demonstration farms and pilot projects led by exemplary cooperatives (ThesGi, ThesTo, AS Zagoras).

This knowledge infrastructure is a prerequisite for the success of all crop and water policies.

## 5.3. Energy Transition and Infrastructure

Energy has emerged as both a constraint and an opportunity in Thessaly’s agri-food transition. High electricity costs for irrigation, combined with inconsistent access to power networks, are undermining competitiveness and widening inequalities between regions and farms. The participatory workshops made clear that the energy-water nexus must be addressed as an integrated policy domain, linking irrigation modernization, renewable energy, and institutional capacity.

### 5.3.1 Regulated Agricultural Electricity Tariff

A special agricultural electricity tariff should be established to stabilize costs for irrigation.

- The tariff must include a price-stability clause, exempting agricultural users from peak-hour surcharges and unpredictable adjustment mechanisms.
- Priority access to grid capacity must be guaranteed for ODYTH-managed networks.

Such regulation enhances procedural justice, protecting smaller farms from volatility and ensuring predictability in planning irrigation schedules.

### 5.3.2 Renewable Energy Integration for Irrigation

The development of renewable energy solutions for irrigation should become a regional priority.

- ODYTH and cooperatives should be supported to create photovoltaic installations dedicated to self-consumption, using *virtual net metering* models to offset consumption across distributed plots.
- Battery storage systems should be eligible for investment support, enabling irrigation during peak demand hours without grid strain.
- Regional energy communities can pool investments, lowering entry barriers for smallholders while creating economies of scale.

These initiatives combine environmental responsibility with distributive justice, as they democratize access to affordable energy.

### 5.3.3 Spatial Planning for Photovoltaics

Participants expressed strong concern about the uncontrolled spread of commercial photovoltaic parks on fertile land.

- A strict spatial planning framework must prohibit installations on high-yield agricultural zones and redirect them toward degraded or low-productivity areas.
- The Region should promote agrovoltaic systems, elevated solar panels that allow continued cultivation beneath them, balancing energy generation with food production.

This approach protects agricultural land while enabling synergy between energy and agri-food transitions.

### 5.3.4 Electrification and Modernization of Irrigation Networks

Infrastructure modernization must go hand in hand with electrification:

- Replace diesel-based pumping stations with electric or hybrid systems using high-efficiency motors and inverters.
- Expand rural electrification grids, prioritizing areas where irrigation depends on expensive private generators.
- Establish a regional fund for pump retrofitting, providing grants for energy-efficient equipment and network optimization.

These upgrades directly reduce operational costs and greenhouse gas emissions, reinforcing long-term sustainability.

### *5.3.5 Incentives for Collective Investment*

Collective ownership models should be prioritized over individual subsidies.

- Establish cooperative financing schemes for photovoltaic installations, pump upgrades, and network improvements.
- Provide preferential credit lines or the Green Transition Facility for cooperatives and ODYTH branches.
- Reward collective performance metrics (e.g., energy savings per cubic meter of water delivered).

Such policies reinforce procedural justice, giving organized groups stronger capacity to shape and benefit from the energy transition.

### *5.3.6 Training and Technical Assistance*

The energy transition also requires new skills.

- Regional training modules should focus on energy auditing, pump optimization, and renewable system management.
- ODYTH engineers staff must be trained to interpret energy data and maintain new technologies.
- Technical manuals and open-data dashboards should be developed for knowledge dissemination.

Energy efficiency is not just a technical adjustment, it is a cultural shift that connects farmers to a shared vision of sustainable modernization.

## **5.4 Governance and Institutional Reform**

Institutional reform was identified by participants as a foundational condition for any sustainable agricultural transition in Thessaly. Water and agricultural management have long suffered from fragmented authority, overlapping competences, and the erosion of public trust. The creation of the Thessaly Water Management and Distribution Organisation (ODYTH) represents a historic opportunity to rebuild governance capacity—provided that it evolves as a participatory and transparent structure rather than a centralized bureaucracy.

### *5.4.1 Decentralization through Local ODYTH Branches*

A multi-level governance model should be established within ODYTH:

- Local ODYTH branches must be formed at the level of each Regional Unit (Larissa, Karditsa, Trikala, Magnesia).
- These branches will merge financially viable TOEVs while maintaining local representation in decision-making.
- Each branch should include a Water Users Council, comprising elected farmer delegates, cooperative representatives, municipal engineers, and environmental experts.

This decentralized structure ensures responsiveness to local challenges while maintaining technical and financial oversight at the regional level. It also restores procedural injustice by embedding decision-making closer to water users.

#### ***5.4.2 Institutionalizing Transparency and Accountability***

Trust can only be rebuilt through transparency. ODYTH and the Region should jointly implement:

- Public consultations for all major projects, plans, and tariff reforms, ensuring community participation.
- Open-data portals displaying real-time water flows, energy use, and costs at basin and TOEV level.
- Independent auditing mechanisms for budgets and performance indicators.

Transparency transforms governance from a top-down directive model into a collaborative contract between institutions and citizens.

#### ***5.4.3 Permanent Technical Assistance and Project Preparation Facility***

A recurring problem identified is the lack of technical capacity to design and implement projects. To overcome this bottleneck:

- Establish within ODYTH a Permanent Technical Assistance Unit staffed with engineers, hydrologists, and project managers.
- The unit would provide standardized templates for feasibility studies, tender documents, and monitoring reports, accelerating project delivery.
- Introduce a fast-track eligibility system for small and medium-scale water infrastructure projects under the CAP and national funds.

This mechanism directly addresses procedural injustices, providing all stakeholders with vested interests in water resource access the opportunity to obtain professional support and funding.

#### ***5.4.4 The Thessaly Water Infrastructure Fund***

To ensure continuity in financing, a dedicated Water Infrastructure Fund of Thessaly should be created under ODYTH's supervision.

- The Fund would operate on a multi-annual programming basis, aligning EU, national, and regional resources for maintenance, modernization, and new investments.
- Priority should be given to projects that enhance efficiency, fairness, and climate resilience.
- Annual reports on allocations and outcomes must be publicly available to guarantee accountability.

This measure stabilizes funding flows and reduces dependence on sporadic, politically driven interventions.

#### ***5.4.5 Reinforcing Public Oversight and Inspection***

The credibility of agricultural reform depends on strong, impartial oversight.

- Strengthen public inspection bodies for seeds, fertilizers, pesticides, and organic certification to ensure compliance and prevent market distortions.
- Reinvest in local extension services, ensuring that advisory functions remain independent from input companies.
- Implement cross-regional inspection protocols to prevent favoritism and improve uniformity in rule enforcement.

This professionalization of oversight institutions restores confidence and protects farmers from arbitrary or unfair practices.

#### ***5.4.6 Participatory Design of Eco-Schemes and Subsidy Mechanisms***

Farmers expressed frustration with top-down implementation of CAP eco-schemes.

To ensure legitimacy and local relevance:

- Establish regional participatory committees, including cooperatives, environmental NGOs, and producer groups, to co-design eco-schemes tailored to local conditions.
- Integrate social and territorial criteria (e.g., farm size, altitude, water stress) into subsidy distribution.
- Regularly evaluate outcomes with feedback loops that allow adaptive management.

Such processes re-embed the CAP within local realities, transforming compliance into genuine collaboration.

#### 5.4.7 Empowering Cooperatives and Producer Organizations

Strong cooperatives are the backbone of equitable rural development.

Policy actions should:

- Offer tax incentives and capacity-building grants for cooperative restructuring and professional management.
- Prioritize cooperatives in project funding and public procurement schemes.
- Facilitate networking between cooperatives (e.g., ThesGi, ThesTo, AS Zagoras) to share best practices and jointly access export markets.

Empowered cooperatives strengthen recognitional and procedural justice, amplifying farmers' voices in market and policy arenas.

#### 5.4.8 Integrated Policy Coordination

To overcome fragmentation, Thessaly's regional government should establish an Interdepartmental Coordination Mechanism connecting agriculture, environment, water, and energy portfolios.

- This mechanism would meet quarterly to align strategies, monitor cross-sectoral impacts, and coordinate external funding proposals.
- The establishment of an Agri-Food Innovation and Sustainable Transitions Hub will serve both as a mapping center (documenting existing injustices, inequalities, and exclusions) and as a strategic body for designing future transition pathways through democratic co-design processes. The Hub will develop evaluation criteria for innovations, provide advisory services to cooperatives and enterprises on innovative solutions and business risks, and oversee and coordinate strategies for consumer outreach and public awareness.

Through integration and evidence-driven planning, Thessaly can move from reactive management to proactive transformation.

### 5.5 Community Resilience and Innovation

Resilience in Thessaly's agri-food system is not only ecological but deeply social and institutional. The floods of recent years, the volatility of markets, and the decline of cooperative trust have exposed the fragility of rural communities. Building resilience requires a combination of knowledge, organization, and social solidarity, anchored in local contexts but connected to regional governance.

### 5.5.1 Local Agro-Advisory Offices

Farmers consistently highlighted the absence of effective, accessible technical guidance. To bridge this gap, Agro-Advisory Offices should be established at the municipal or district level, under the coordination of the Region and ELGO–DIMITRA.

- These offices would offer on-site consultation on crop practices, irrigation, pest management, and marketing.
- They would also coordinate with universities and cooperatives to provide tailored workshops and demonstrations.
- Priority should be given to marginalized or small-scale farmers who lack access to private agronomic services.

This initiative addresses procedural injustices in access to knowledge, ensuring equitable advisory support across communities.

### 5.5.2 Quality Laboratories and Mobile Analysis Units

The valorization of Thessalian products depends on measurable proof of quality. To overcome current inequalities in certification capacity, the Region should:

- Create accredited regional laboratories for testing olive oil phenolic content, soil fertility, and pesticide residues.
- Deploy mobile analysis units to perform on-site sampling in remote or mountainous areas.
- Publish results in an open digital dashboard, enabling transparency and market differentiation.

These infrastructures democratize access to quality validation and directly enhance the competitiveness of local producers. They also help ensure recognitional justice, by making local quality visible and verifiable.

### 5.5.3 Terroir Mapping and Localized Protocols

Thessaly's diverse topography—from the plains to the Pelion slopes—requires place-based standards.

- A Terroir Mapping Initiative should be launched, bringing together agronomists, geologists, and GIS experts to classify micro-zones based on soil, altitude, and microclimate.
- Local producer groups should then develop micro-zone protocols regulating irrigation, harvesting, and integrated pest management practices.
- Protocols should be reviewed annually with community feedback, reinforcing adaptive management.

This initiative blends scientific expertise with local experiential knowledge, strengthening identity and environmental stewardship simultaneously.

#### ***5.5.4 Participatory Pest Management and Traceability***

A recurring grievance among farmers, especially olive producers, concerns the inefficiency of public pest-control programs (e.g., for the olive fruit fly). The Region should redesign these programs under a participatory governance model:

- Assign monitoring responsibility to cooperatives, which would install sensor-based traps with telemetric data collection.
- Data would feed into a public online dashboard, triggering interventions when pest thresholds are exceeded.
- Spraying would be carried out by certified cooperative teams, ensuring transparency, documentation, and accountability.

Such an approach improves ecological effectiveness while rebuilding trust between farmers and institutions through transparency and shared management.

#### ***5.5.5 Agricultural Labor Office and Fair Work Systems***

Seasonal labor shortages and informality emerged as major concerns during the workshops. A Regional Agricultural Labor Office should be created to coordinate demand and supply:

- Maintain dual registries of workers (with skills and availability) and cooperatives/employers (with labor needs by season).
- Facilitate bilateral agreements with origin countries for short-term work permits (6–9 months).
- Offer rapid training programs in pruning, harvesting, and safety for both migrant and local workers.
- Support cooperatives in providing basic housing solutions through refurbishment of unused rural properties.

This model enhances distributive and procedural justice, stabilizing labor supply while protecting workers' rights and living conditions.

#### ***5.5.6 Local Knowledge Networks and Peer Learning***

Strengthening resilience requires social infrastructure that fosters collective intelligence.

- Establish knowledge exchange platforms where farmers, scientists, and cooperatives share experiences on irrigation, soil management, and organic conversion.
- Encourage peer-to-peer mentoring and “farmer field schools” under the coordination of the Agro-Advisory Offices.
- Document and disseminate successful case studies (e.g., ThesGi, ThesTo, AS Zagoras) to inspire replication.

These initiatives build trust capital, transforming isolated actors into a learning community capable of adaptive innovation.

#### *5.5.7 Pilot “Living Lab” for Sustainable Olive Landscapes*

The Pelion and South-West Magnesia zones can become a Living Lab for Sustainable Olive Landscapes.

- Municipalities, cooperatives, universities, and private partners should jointly establish this laboratory as an open innovation ecosystem.
- Activities would include terroir mapping, pilot production blocks, chemical and organoleptic testing, and branding exercises linking olive oil to health claims and local identity.
- The Living Lab would integrate training, digital traceability, and storytelling, connecting producers with consumers and researchers.

This initiative would turn a historically disadvantaged region into a laboratory of transition, blending tradition, science, and innovation.

#### *5.5.8 Resilience as Policy Integration*

Finally, resilience must be mainstreamed across all policy domains. It involves not only building infrastructure but also nurturing social cohesion, intergenerational transfer of knowledge, and collective agency. Resilience indicators, such as cooperative participation rates, education levels, and diversification indices, should be incorporated into the Region’s monitoring framework. A resilient Thessaly is one where farmers, scientists, and institutions act together as co-producers of sustainable futures.

### 5.6. Innovation, Education, and Strategic Foresight

Sustainable transformation in Thessaly hinges on knowledge, foresight, and institutional learning. Participants in all workshops stressed that without systematic education and innovation mechanisms, even the best infrastructural or policy reforms risk failure. Innovation here is not only technological—it is social, organizational, and cultural, requiring new ways of linking research, governance, and production.

#### *5.6.1 Regional Innovation Ecosystem*

The Region of Thessaly should coordinate a Regional Agri-Food Innovation Ecosystem that connects universities, research institutes, cooperatives, and private enterprises.

- Establishment of the Agri-Food Innovation and Sustainable Transitions Hub as an independent structure, functioning as an interface between policy, science, and practice.

- Encourage multi-actor projects that co-develop solutions for irrigation efficiency, crop diversification, soil restoration, and market integration.
- Utilize EU programs (Horizon Europe, LIFE, CAP Innovation Partnerships) to fund pilot demonstrations and technology transfer.

This ecosystem would institutionalize collaboration and transform Thessaly into a living laboratory of sustainable agriculture.

### *5.6.2 Digital Transformation and Data Integration*

Digitalization is central to transparency, traceability, and adaptive management.

- Develop a Thessaly Agri-Data Platform, integrating hydrological, climatic, and agricultural data for decision support.
- Provide farmers and cooperatives with real-time information on irrigation scheduling, pest alerts, and weather forecasts.
- Introduce digital dashboards that visualize water flows, costs, and emissions at ODYTH levels.

Data-driven governance allows for responsive, evidence-based decisions while reinforcing accountability and public trust.

### *5.6.3 Education and Capacity Building*

Education is both the driver and the outcome of just transition.

- Launch a Regional Training Program for Sustainable Agriculture, jointly managed by ELGO–DIMITRA, the University of Thessaly, and cooperatives.
- Curriculum should cover topics such as water management, precision farming, agroecology, digital monitoring, and cooperative governance.
- Introduce modular certifications enabling farmers to progressively acquire new skills without leaving their farms.
- Encourage participation of women and young farmers to diversify leadership in rural communities.

Such capacity-building ensures that innovation reaches all social strata, mitigating knowledge-based inequalities.

### *5.6.4 Participatory Research and Co-Production of Knowledge*

Farmers requested that research become more accessible and grounded in field realities.

- Develop participatory research programs where farmers, scientists, and policymakers jointly define research questions and test solutions in pilot plots.
- Promote citizen-science approaches, e.g., monitoring soil health or water quality using low-cost sensors.
- Reward researchers and institutions for community engagement and impact, not just academic output.

This participatory turn bridges the gap between laboratory and field, ensuring that innovation is socially legitimate and context-specific.

### ***5.6.5 Long-Term Strategic Planning***

A major outcome of the workshops was the call for long-term foresight and planning. Participants envisioned a five-year strategic planning unit within the Region, capable of forecasting market trends, water availability, and technological evolution.

Its tasks would include:

- scenario analysis for crop and irrigation planning,
- periodic updates on agri-food market opportunities,
- coordination of regional data with national and EU foresight tools.

This institutional foresight would provide continuity beyond electoral cycles, aligning policies with future risks and opportunities.

### ***5.6.6 Communication, Outreach, and Public Engagement***

Transformation requires social legitimacy and visibility.

- Launch communication campaigns that highlight success stories of sustainable farming and cooperative innovation.
- Organize annual Thessaly Agri-Future Forums bringing together farmers, scientists, policymakers, and consumers.
- Support educational programs in schools to reconnect young people with agriculture and sustainability.

These outreach initiatives help cultivate a shared sense of ownership over the regional transition process.

### ***5.6.7 Innovation Metrics and Evaluation***

Finally, innovation policy must be measurable.

- Define indicators of innovation performance. (e.g., adoption rate of smart irrigation, number of cooperatives engaged in digital tools, hectares under sustainable management).
- Link regional funding to these indicators to reward effective, scalable practices.
- Ensure that evaluation processes are transparent and participatory, with public reporting of progress.

Monitoring and evaluation transform policy from rhetoric into tangible outcomes, making Thessaly's transition accountable, adaptive, and measurable. The role of the Agri-Food Innovation and Sustainable Transitions Hub is therefore pivotal, representing a regional-level innovation in governance and implementation.

### Integration Across the Six Pillars

The six thematic domains—Water, Crops, Energy, Governance, Communities, and Innovation—must not function as separate agendas but as a single integrated strategy.

This integration reflects the systemic nature of the challenge: water efficiency depends on energy reform; crop diversification relies on market governance; innovation requires education and participatory institutions.

By aligning these domains under one strategic framework, Thessaly can move from fragmented policy responses to a coherent regional model of just and sustainable transformation.

## 6. Outlook for 2030: Toward a Just and Sustainable Agricultural Transition

The Thessaly consultation process has illuminated a complex yet hopeful landscape. Beneath the visible challenges of drought, aging infrastructures, and economic uncertainty lies a region rich in social capital, technical expertise, and collective memory. The farmers, cooperatives, and experts who participated in this process articulated a shared conviction: the future of Thessalian agriculture must be built on justice, intelligence, and collaboration.

The next decade will be decisive. Thessaly's agricultural system stands at the crossroads of two trajectories: one of gradual decline under the pressures of climate change and institutional inertia, and another of renewal grounded in fair governance, sustainable resource use, and regional innovation. The consultations demonstrate that the second trajectory is achievable—if supported by consistent policy action and participatory governance.

### 6.1 A New Governance Contract

The Region of Thessaly must evolve from a coordinating authority into a regional integrator, the actor

that connects the dots between water, energy, crops, markets, and education. This requires a new governance contract based on:

- participatory decision-making through local ODYTH branches;
- transparency and open data;
- equitable distribution of resources and subsidies; and
- long-term strategic planning insulated from political volatility.

By embedding fairness into its governance architecture, Thessaly can rebuild trust between state and citizens, institutions and producers.

## 6.2 Farmers as Agents of Transition

The workshops clearly showed that Thessalian farmers are not passive recipients of policy, they are agents of innovation. Given adequate knowledge, infrastructure, and institutional support, they are willing to invest in sustainable practices, new technologies, and collective solutions. Policy frameworks must thus shift from “*compliance models*” to “*empowerment models*”, where farmers co-design and co-implement the transition.

A just transition recognizes not only environmental limits but also social dignity, ensuring that adaptation does not deepen existing inequalities but redistributes opportunities fairly.

## 6.3 Water and Energy as Commons

Water and energy emerged as the two central axes of both vulnerability and hope. Treating them as commons, not commodities, implies inclusive governance and shared responsibility. Equitable access to water, transparent management of energy resources, and reinvestment in collective infrastructures are the pillars of regional resilience.

This paradigm shift, from individual extraction to collective stewardship, will determine whether Thessaly can sustain both its ecosystems and its agricultural livelihoods under changing climatic conditions.

## 6.4 Rebuilding Trust and Cooperation

Perhaps the most intangible but vital element of transition is trust. Decades of fragmented policies and inconsistent state presence have eroded the sense of common purpose. Yet, the participatory process demonstrated that trust can be restored through open dialogue, transparency, and tangible collaboration between farmers, cooperatives, researchers, and regional authorities.

Rebuilding this trust will require:

- consistent consultation processes beyond project cycles;
- fair representation of local actors in decision-making bodies;
- and accountability mechanisms that ensure promises translate into results.

Only through procedural fairness can distributive and recognitional justice be realized.

## 6.5 Thessaly as a Regional Model

The agricultural and hydrological complexity of Thessaly makes it a microcosm of Mediterranean challenges.

By pioneering integrated water management, participatory governance, and innovation-led diversification, Thessaly can serve as a model region for the European Green Deal’s goals in southern Europe.

The White Paper’s proposals — ranging from the establishment of the Agri-Food Innovation and Sustainable Transitions Hub, to inter-basin connections, renewable-powered irrigation, and cooperative “living labs” — constitute a roadmap for a just transition that can be adapted to other regions facing similar climatic and water-related challenges.

## 6.6 The Road Ahead

The transformation envisioned here cannot be achieved through isolated projects or short-term funding cycles. It demands a strategic commitment, a multi-decade effort that combines institutional reform, scientific research, farmer education, and public engagement.

By 2030, Thessaly could embody a new rural paradigm:

- where water flows are managed collectively and transparently;
- where renewable energy powers irrigation and processing;
- where quality-certified products link local identity to global markets; and
- where cooperatives, scientists, and citizens co-create value and resilience.

Such a transformation will not be linear or easy, but it is within reach. The participatory process of 2025 demonstrated that change is not only necessary, it is desired. Thessaly’s agricultural communities have already taken the first step: envisioning a future that is equitable, intelligent, and sustainable.

## 6.7 Concluding Note

The findings of this white paper represent more than a report, they constitute a regional vision born from dialogue, knowledge, and shared experience. They outline how a fair, transparent, and adaptive governance model can transform systemic injustice into collective opportunity. Thessaly’s journey toward

2030 will depend on continuous participation, trust, and investment in both human and natural capital. If these principles guide the next phase of policy implementation, the region can become a beacon of just transition in European agriculture, proving that sustainability and social justice can grow from the same soil.