



UNDERSTANDING & IMPROVING  
THE SUSTAINABILITY OF AGRO-  
ECOLOGICAL FARMING SYSTEMS IN THE  
EU

# Diversifying specialised winegrowing areas Chianti Biodistrict (Tuscany, Italy)

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## Farming system

- Cropping systems – Specialized vineyards, olive trees, minor crops
- 30% of the agricultural land is managed under organic

## Dilemma

- Farm level – how to favour the adoption of farming practices inspired by the principles of agro-ecology, with particular attention to crop diversification
- Territorial level – how to improve employment, environmental quality and the cultural landscape of the territory

## Main sustainability issues

- Soil erosion, biodiversity loss and pollution
- Land abandonment
- Degradation of the cultural landscape

## Stage of transition examined

- Advancing an on-going transition, with high presence of organic farming moving towards system re-design



## Key actors involved in the MAP

- Farmers, local administrations, Region Tuscany, farm advisors, value chain (Chianti wine consortium for PDO wine), Biodistrict association (NGO)

‘Chianti Biodistrict’ is an innovative approach to sustainable territorial development based on **agreements** among:

- **Farmers** provide ecosystem services and maintain the landscape
- **Local administrations** are responsible for the provision of instruments to address territorial priorities
- **Other actors** that contribute to the definition of territorial priorities



## Agro-ecological practices

- Improving the sustainability of existing farming systems – Green cover of vineyards; Composting of agricultural residues; Crop monitoring
- Re-shaping existing farming systems – Recovery of olive groves, cereals and vegetable production on abandoned land

AE Practices	Sustainability implications	Trade-offs
<b>Composting</b>	Pollution abatement due to reduced fertiliser uses and biomass burning, increases soil quality	Low economic sustainability due to high labour and equipment costs, uncertain environmental sustainability due to greater emissions from field operations
<b>Inter-row green cover</b>	Improve soil biodiversity and fertility, reduces soil erosion, improves grapes' quality	Low economic sustainability due to improper management and temporary yield decrease
<b>Pest Monitoring</b>	Reduces emissions from and cost of pesticides, allows improving grapes' quality	Low economic sustainability due to high equipment costs and uncertain benefits
<b>Recovery of abandoned land</b>	Protects the cultural landscape, reduces soil erosion, diversifies farm income	Low economic sustainability due to lack of entrepreneurship and absence of market opportunities


## Knowledge and social capital

- Lack of practice-specific knowledge and/or know-how.
- Lack of market knowledge on products others than wine
- Limited coordination among AKIS actors

## Value added, processing and markets

- Lack of financial resources for investments by small-medium farms
- High reconversion costs of agricultural land invaded by shrubs
- Shortage of rural labour supply and low generational turnover
- Lack of market opportunities for products other than wine
- Limited development of local food chains

## Institutional and policy design

- Existence of successful (but limited) experiences with machine sharing
  - Positive experiences of grassroot initiatives (Biodistrict)
  - Synergies with rural tourism and prevalence of family farm businesses
  - Difficulties to land access to marginal land located in inner rural areas
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Actions	Instruments
Strengthening and empowering existing <b>local initiatives</b> via institutional formalisation	<ul style="list-style-type: none"> <li>• Regional Law on Organic Districts of Tuscany Region</li> <li>• Law for the procurement of locally grown food for public canteens</li> </ul>
Empowering regional and local <b>networks</b> of knowledge about agroecology	<ul style="list-style-type: none"> <li>• Involving farmers, advisors and public and private research centres</li> <li>• Strengthening the participation of small and medium farms to AKIS measures</li> <li>• Coordination centre for regional Agricultural Knowledge and Innovation System</li> </ul>
Promoting the coordination among farmers and other local <b>food chain</b> actors	<ul style="list-style-type: none"> <li>• Pilot projects for the provision of meals from short supply chains</li> <li>• Development of information and awareness-raising campaigns</li> </ul>
Promoting generational turnover and <b>cooperation</b> among farms	<ul style="list-style-type: none"> <li>• New models of collective innovation for creating enduring benefits to small and medium farms</li> <li>• Machinery rings reduce the economic burden of investments</li> </ul>

**To reduce farmer aversion towards the adoption of agroecological practices, there is a need for targeted knowledge diffusion**

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**Cooperation is of utmost importance to adopt advanced agroecological practices on farm and at the territorial level**

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- How to foster the adoption of agroecological practices in specialized areas?
- Do the three case studies provide an exhaustive overview of the key barriers/challenges for the AE transition of permanent c systems em
- How could the policy support for AE practices in permanent crops be improved (e.g., in the future CAP and Farm to Fork strategy)?





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