



## Sustainable transition drivers of agriculture in the Central-Eastern European Region

### Traditional agroecology practices in the CEE region

Agroforestry as a land-use option has been included within the Common Agricultural Policy (CAP) of the European Union (EU) for many decades. Agroforestry as a land-use is often supported at the policy level as it can be more environmentally friendly than other land-uses or farming systems. As a system, agroforestry often: requires less herbicides and pesticides; creates more habitat for flora and fauna as well as having a high species diversity; and creates relations between different kind of greenfield elements – which are usually cut from each other. In addition, agroforestry systems can be more accessible to society than mono-cultures and creates a diverse landscape.

In the Central-Eastern European region, agroforestry has many centuries of tradition. Silvopasture, silvoarable and many types of mixed production practices, such as pasture forest, left wooded pasture, forest-bounds/hedges close to the edges of fields, grape-fruit-vegetable mixed use.

### Need for transition

According to the climate change scenarios for the Central-Eastern European region the irradiation and therefore mean temperature will increase in summer time, meaning evapotranspiration will also increase, leading to increased irrigation needs. The natural water-levels are already decreasing in the soil. Already it is common in the region, that many horti- and fructiculture systems are irrigated, fruit plantations need cover to protect from sunburn and even some common cereals need irrigation (eg. corn).

### The role of agroforestry

Agroforestry as a system could be important to the region given its multifunctional benefits. For example, shading from trees can decrease the need for irrigation and protect crops from high radiance levels. Even cereal fields could be considered as mixed-use agroforests in the future. These land-uses must change either by different cultivation or by different land-use. Agroforestry as climate change mitigation tool can also increase water stocks more evenly used, soil protection and provide alternatives to artificial shading systems.

### Policy recommendations

- Clear definitions on regulation level of agro-forestry and mixed farming
- Clearly differentiate from other land-use types on definition, regulation, land-use registration, subsidies, evaluation
- Incorporate EU regulations and strategies into national level administration

- Provide national/local best practice collection and especially testing results on economic cost-benefit bases to provide an effective guidance to farmers and reduce risk on agro-ecological transition
- Provide financial support to agro-ecological transition
- Focus on local needs and possibilities
- Ease the bureaucratic burden of funding of implementation of AF systems

		<b>Scenario 1:</b> Waiting for the 'technological transition'	<b>Scenario 2:</b> An 'agroecological transition' with "EU new strategies"
<b>Main features (policy and technical background and requirements )</b>	Main drivers of the transition	Market: Great lobby background from food/ agricultural industry	Policy: Great lobby from environmental sector
	Main problem	Precision agricultural technicians to be provided to each farm or farm cluster - who pays for it?	Not properly tested technicians and solutions - high risk
	Policy support	There isn't strong policy support; potentially not even needed	There is strong policy support and even further needed
<b>Impacts</b>	Human input needs	Significantly less	Potentially more, but there isn't any potential in this respect
	Pesticide/herbicide use	Proven lower pesticide/herbicide use	Potentially lower, not properly tested
	Accuracy	More exact processing	Not properly tested
	Economic balance	huge investment in management, expensive yearly services, form all other aspects less input, more output on yearly management bases	Not properly tested
	Tested processes	Well tested, there are professional solutions and providences	Not properly tested, which means a high risk (risk management needed)
	Policy transition needs	Yes, but it is not required change on authorities level	Yes, a new regulation set is needed
	Funding needs	High funding needed, Finance technological transition	Not properly tested, a financial risk management needed
	New skills requirement/ farmers knowledge	new skills required (not all farmers ready to change machinery)	new skills required (not certain if farmers ready to change management practices)
	Prices	Expensive on start the processing and on maintenance, not appropriate stocks exist on farm level in Hungary	Cheap on starting process, potentially expensive maintenance, finance losses due to lack of experience
	Data needs	Yes, above farm level data reach, farm level data providing services	Yes, on farm level - species /varieties combination, ecological relations
	Further costs	<ul style="list-style-type: none"> <li>• Data providing services (Accessible satellite)</li> <li>• Technical expertise providing services farmers mainly can't pay it.</li> <li>• Higher educated farmers (less likely to remain in agriculture)</li> </ul>	<ul style="list-style-type: none"> <li>• potentially more input, less output</li> <li>• results less exact processing ,</li> <li>• might cause economical loss and further social crisis.</li> </ul>
Societal transition needs	Yes; To decrease costs of individual farms, clustering transition might needed (social opposition might occur)	Yes; Society acceptance on potentially lower quality / smaller quantity production, food price increasing	



#### For further information please contact

CEEweb platform & contact

[www.ceeweb.org/](http://www.ceeweb.org/)

Gabriela Nagy: [gabriella.nagy@ceeweb.org](mailto:gabriella.nagy@ceeweb.org)

AGROMIX brings together farmers, researchers and policymakers to explore agroecological solutions for more resilient land use in Europe, developing tools to implement these practices.

[agromixproject.eu](http://agromixproject.eu)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 862993.