



UNIVERSITÀ DEGLI STUDI
DI NAPOLI FEDERICO II



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DRASTIC

DRiving the itAlian food SysTem
Into a Circular economy model



Kick-off Meeting

Dipartimento di Agraria

Università degli Studi di Napoli Federico II

20-21 Febbraio 2020, Portici (NA)

Luigi Cembalo

Dipartimento di Agraria – Università degli Studi di Napoli Federico II

WPO – Coordinamento

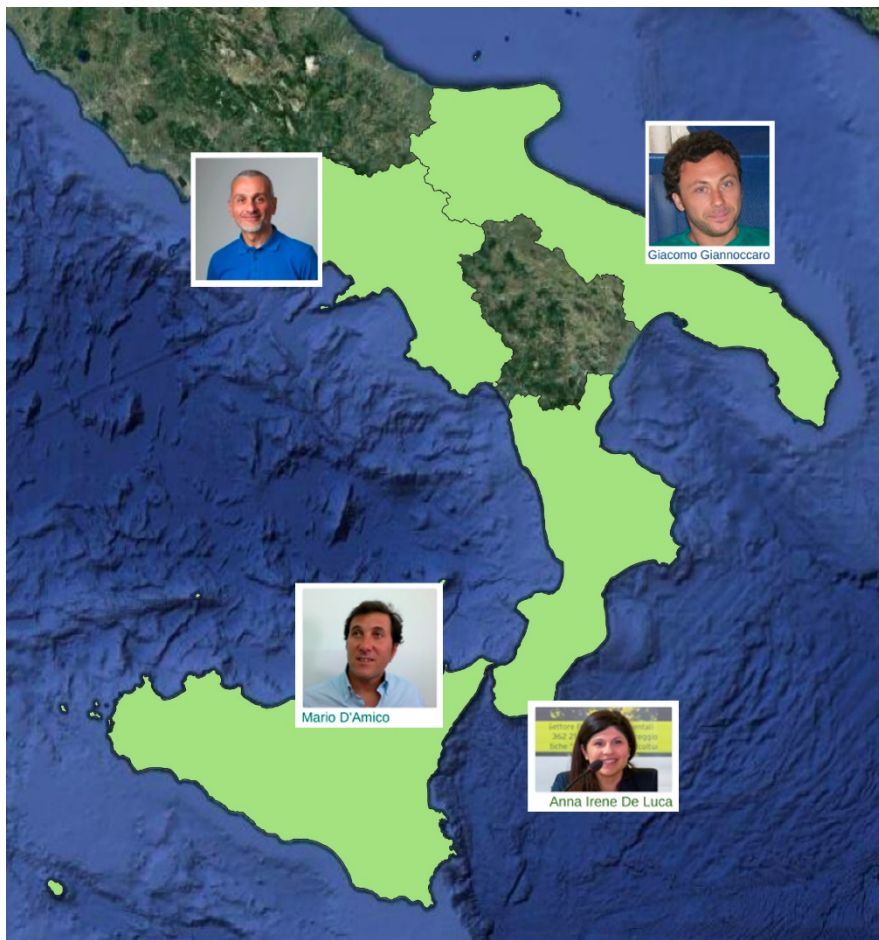
- Presentazione del progetto e sua articolazione -



Ministero dell'Istruzione, dell'Università e della Ricerca

Progetto e sedi coinvolte

- Prin bando 2017 – linea C (SUD), settore SH1
- Approvazione graduatoria: 3 Aprile 2019
- Cod. 2017JYZFF
- Decreto ammissione al finanziamento: 8 Novembre 2019
- Inizio ufficiale progetto: 6 Febbraio 2020
- Durata: 3 anni, scadenza 6 Febbraio 2023



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Traiettorie innovative: Transition theory e Sustainable business models

- Le attuali e predominanti traiettorie di innovazione ottimizzano l'attuale «business model» perpetuando lo status-quo
- È necessaria una innovazione di sistema: dal «doing things better» a «doing better things».
- Questo è possibile combinando alcuni elementi della teoria del business model innovativo:
 - elementi di system thinking (approccio multilivello)
 - immaginando un futuro nuovo (visione value-inspired)
 - design riflessivo (osservando criticamente le strutture tradizionali)
 - co-creazione (creazione di valore collettiva e condivisa)

Traiettorie innovative: Transition theory e Sustainable business models

La transition theory studia le dinamiche dei cambiamenti e definisce la transizione sostenibile come «una trasformazione radicale attraverso una società sostenibile in risposta a problematiche persistenti presenti nella società moderna».

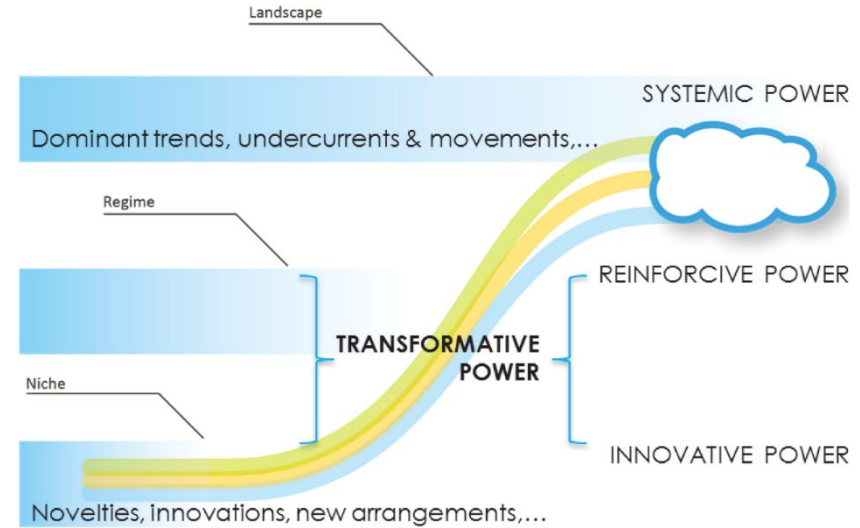


Figure 2. Multilevel perspective in relation to different types of power (reworked from [26]).

Fonte: Gorissen et al., JAFE (2016)

Modifiche strutturali in:

- ✓ Come si organizzano le strutture produttive e sociali
- ✓ Il modo di pensare (aspetti culturali) che riguardano tutti (produttori, consumatori, ecc.)
- ✓ Il modo in cui «facciamo le cose»

Traiettorie innovative: Transition theory e Sustainable business models

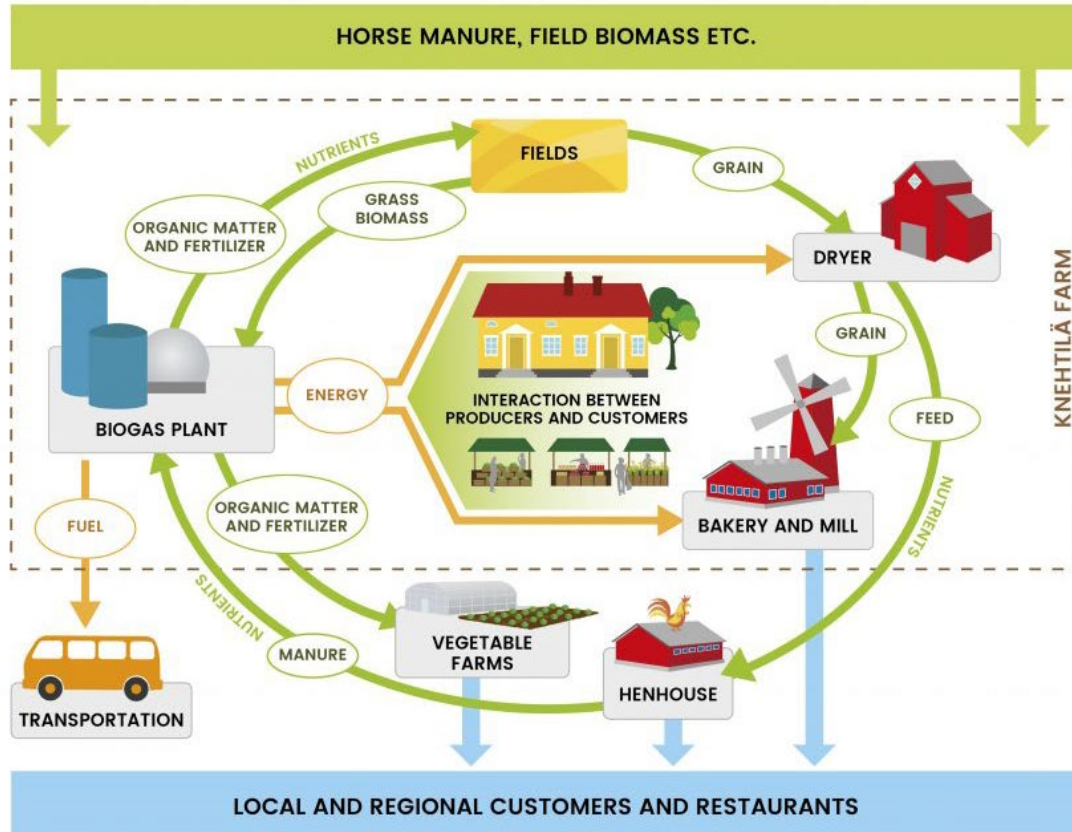
La transition theory suggerisce una combinazione di steps e attività associate:

1. La comprensione e l'analisi dell'attuale sistema,
2. Immaginare il futuro (cosa è desiderabile e cosa no)
3. Esplorare possibili scenari
4. Esplorare possibili strade per raggiungere gli obiettivi
5. Monitorare la transizione
6. Tradurre le lezioni imparate in azioni di modifiche degli esiti per modificare le dinamiche

Esempio in cui è stato applicato questo schema: Palopuro

Economia Circolare – Simbiosi Agroecologica

Palopuro Agroecological Symbiosis Finlandia



<https://www.youtube.com/watch?v=ISJWpSc4o04#action=share>

1,800,000

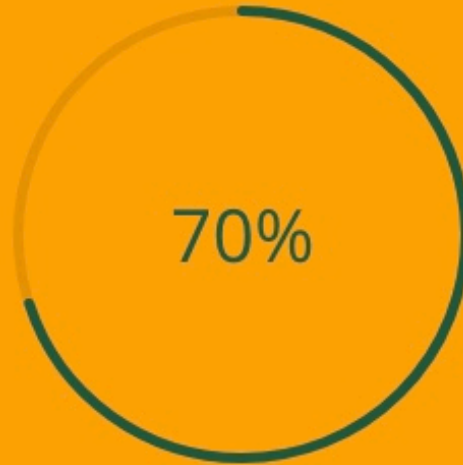
farms in the EU on

5,000,000

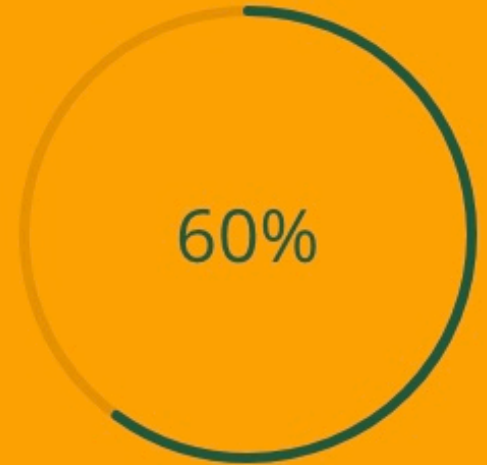
hectares of land produce

2,000,000,000

litres of olive oil per year.



of the total worldwide
production of olives and
olive oil comes from the
EU



of all farms in Greece and
40% of all farms in Spain
and Italy are dedicated to
olives

Distribution of Italian olive growing area per Region

1,075,000

hectares of land

500,000

tons of olive oil produced

3,151

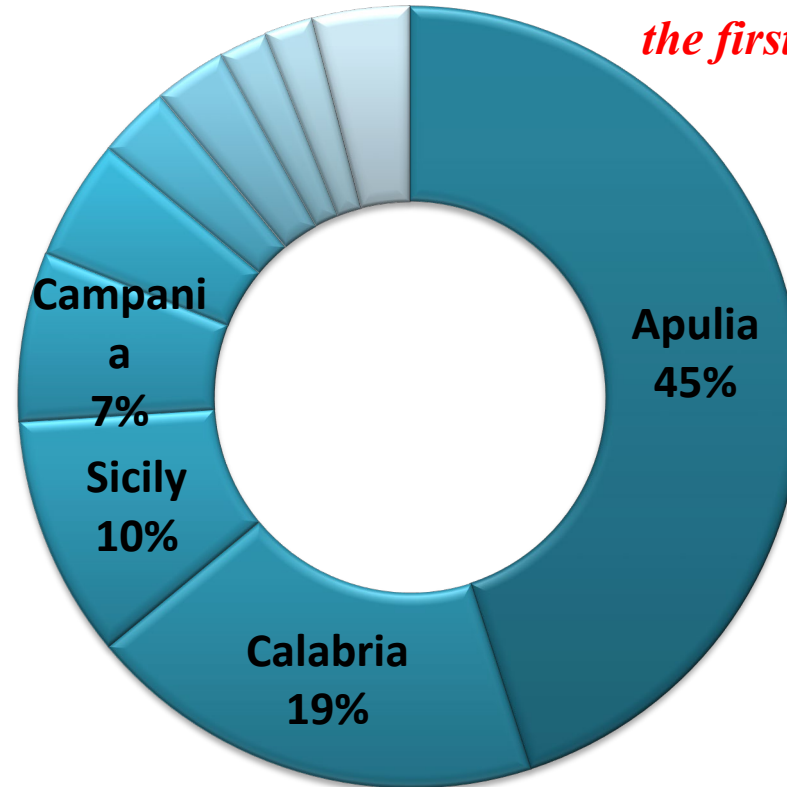
million euros in the olive oil sector

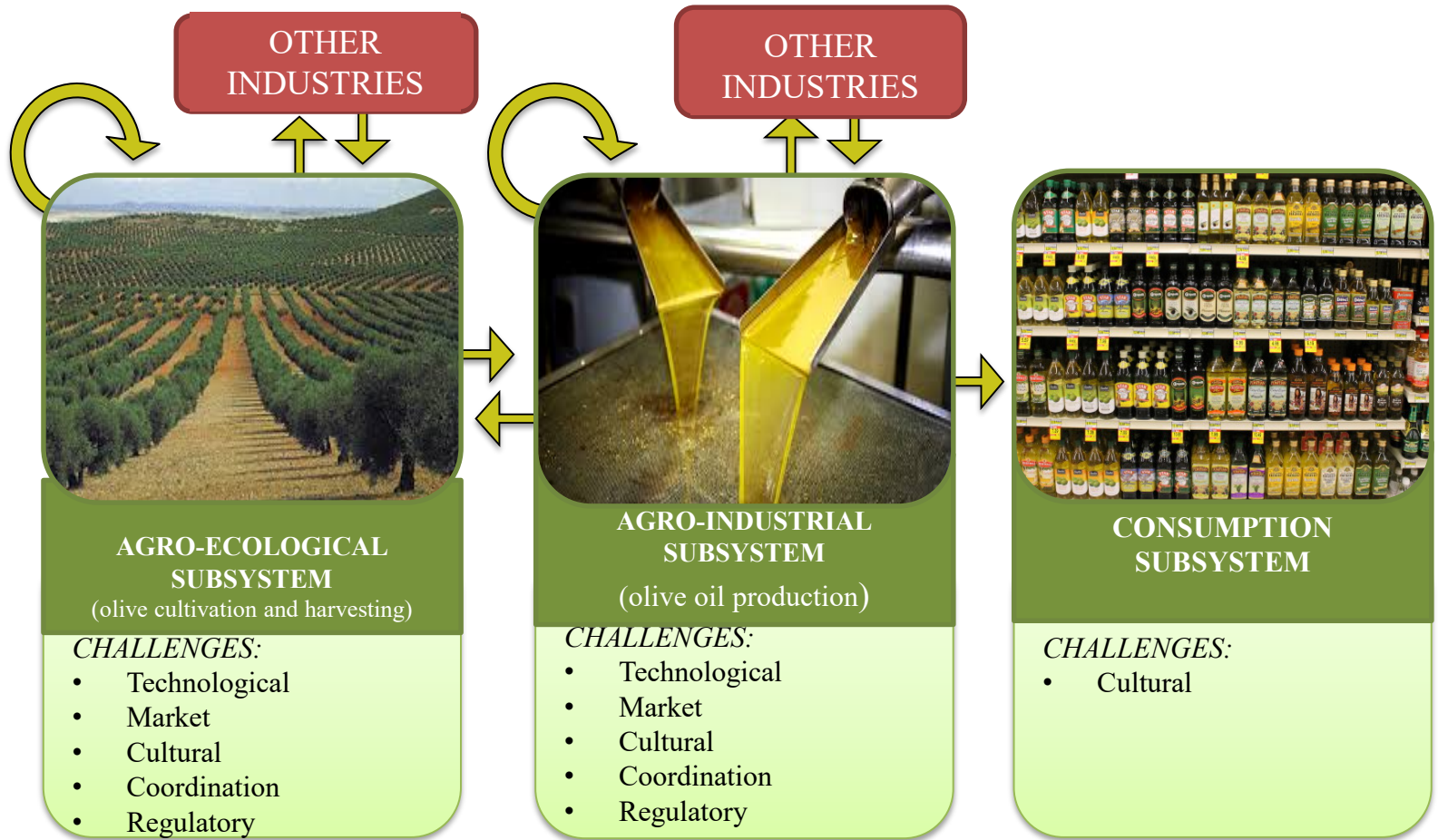
500

varieties of olive trees

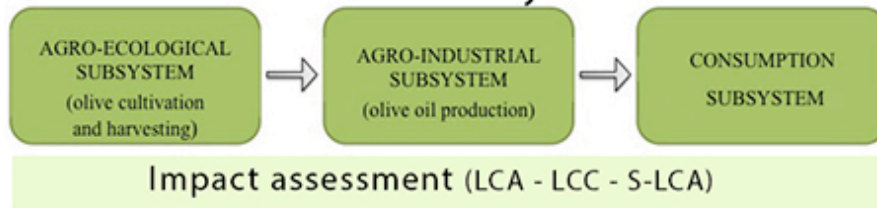
2.4

percent of the value of agri-food production





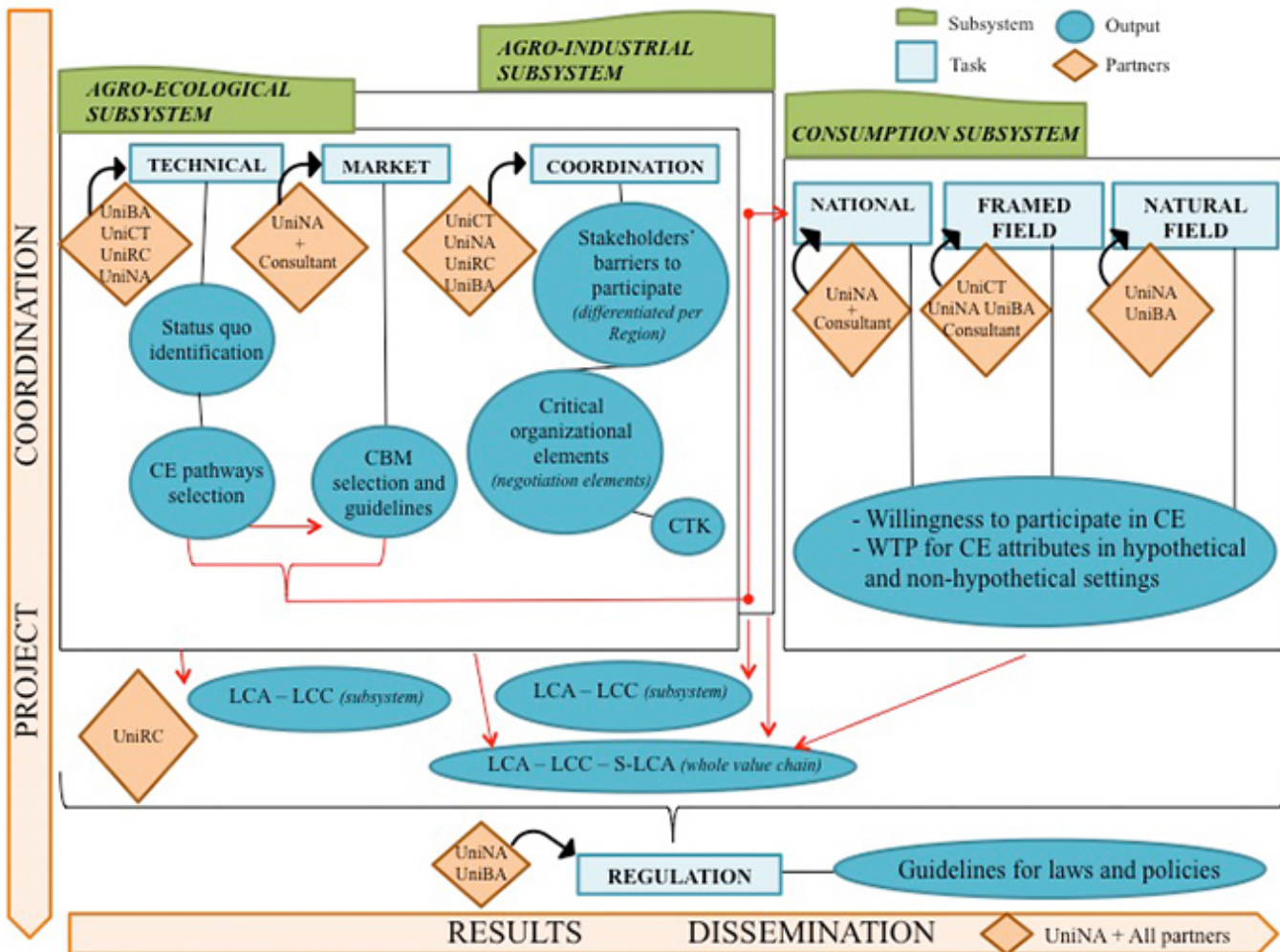
Current Linear system



Transition to Circular pathway



Impact assessment (LCA - LCC - S-LCA)



Current GAPS, project OBJECTIVES and project CONTRIBUTIONS

UniBA

	Current gaps	Project objectives	Project contributions
WP1 - Agro-ecological subsystem	Lack of knowledge on: a) the adoption of circular farming/transforming technologies and practices; b) CBM to adopt in CE pathways; c) farmers'/entrepreneurs' willingness to collaborate; cooperation within the chain; d) regulations and laws obstacles	Trigger the adoption among farmers/transformers of effective technologies, business models, coordination strategies and to eliminate obstructing regulations for the adoption of identified CE pathways.	Identifying the most preferred and ready to be implemented CE pathways at farm/firm level
WP2 - Agro-industrial subsystem			
UniNA	Lack of knowledge on consumers' interest, acceptance and participation to CE pathways	Assessing consumers' willingness to participate to CE by buying food produced through CE initiatives.	Finding the conditions in which consumers can capture the value generated by CE and support through their purchase behavior companies engaged in CE
UniRC	Lack of data on impacts and need for tools to support decision makers to assess economic feasibility in adopting CE pathways	<ol style="list-style-type: none"> 1. quantify positive or negative environmental loads in adopting CE innovations 2. evaluate the economic performances of enterprises and identify bottlenecks in adopting CE strategies 3. identify and evaluate whether the introduction of CE pathways can represent a change in terms of social performances 	Overcoming lack of data on impacts by defining an overall assessment framework to quantify the sustainability of CE pathways by considering environmental and socio-economic dimensions

WPO. Project coordination			
UniBA	WP1. Agro-ecological subsystem	Task 1.1. Technical	Official statistics data collection of the olive-oil sector in the target areas; ii) characterization of the most representative olive farm typologies and oil production; iii) interviews with technical experts of the sector to gather information on current linear farming practices and the available alternative CE pathways Casual loop diagrams for CBM and maps linking the constrained factors (technical solutions to problems to actors)
		Task 1.2. Market	
		Task 1.3. Coordination	
		Task 1.4. Regulatory	
UniCT	WP2. Agro-industrial subsystem	Task 2.1. Technical	a) Stated preferences methods to assess stakeholders' willingness to adopt circular solutions; Semi quantitative methods cobining structured survey and experimental economics games like public good games or trust games b) mapping circular agri-food systems; interactive and online Circular Tool Kit (CTK) Delphy method with 15/20 experts and policy makers; semi structured questionnaire administered to entrepreneurs
		Task 2.2. Market	
		Task 2.3. Coordination	
		Task 2.4. Regulatory	
UniNA	WP3. Consumption subsystem	Task 3.1. National survey	Choice-based conjoint analysis
		Task 3.2. Framed field economic experiment	Becker-DeGroot-Marschak (BDM)/random n-Price/Multiple Price List (MPL) for Willingness to Pay elicitation
		Task 3.3. Natural field economic experiment	Non-hypothetical real choice experiments with information treatment
UniRC	WP4. Impact assessment	Task 4.1. Environmental Impact Assessment (LCA)	Life Cycle Assessment (LCA), ReCiPe 2016 method (endpoint/midpoint)
		Task 4.2. Economic Impact Assessment (LCC and eLCC)	Life Cycle Costing (LCC), conventional LLC, environmental LCC - EPS2015, profitability and financial indicators, sensitivity analysis
		Task 4.3. Social Impact Assessment (S-LCA)	Social Life Cycle Assessment (S-LCA), UNEP/SETAC approach, Social Impact Matrix (SIM), impact pathways method, Psychosocial Risk Factors (PRF)
WP5. Research results dissemination			

WP	Actions	Tasks	Who does what	TRIMESTERS													
				I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
0	Project coordination	Task 0.1 Project Management and Coordination	PI - UniNA														
1	Agro-ecological subsystem	Task 1.1. Technical	All partners														
		Task 1.2. Market	UniNA + Consultant														
		Task 1.3. Coordination	All partners														
		Task 1.4. Regulatory	UniNA; UniBA														
2	Agro-industrial subsystem	Task 2.1. Technical	All partners														
		Task 2.2. Market	UniNA + Consultant														
		Task 2.3. Coordination	All partners														
		Task 2.4. Regulatory	UniNA; UniBA														
3	Consumption subsystem	Task 3.1. National survey	UniNA + Consultant														
		Task 3.2. Framed field economic experiment	UniCT; UniNA; UniBA + Consultant														
		Task 3.3. Natural field economic experiment	UniNA; UniBA														
4	Impact assessment	Task 4.1. Environmental Impact Assessment (LCA)	UniRC														
		Task 4.2. Economic Impact Assessment (LCC and eLCC)															
		Task 4.3. Social Impact Assessment (S-LCA)															
5	Research results, dissemination	Task 5.1. Internal communication, monitoring, results dissemination	UniNA; All Partners														

Tre fonti informative:

1. Atlas Italiano (<http://www.economicircolare.com/latlante/>)
2. ENEL and Symbola Foundation, 2018. "100 Italian circular economy stories"
3. Legambiente (2017). "Circular economy, made in Italy"

292 organizzazioni

*Ghisellini & Ulgiati,
JCLP (2020)*

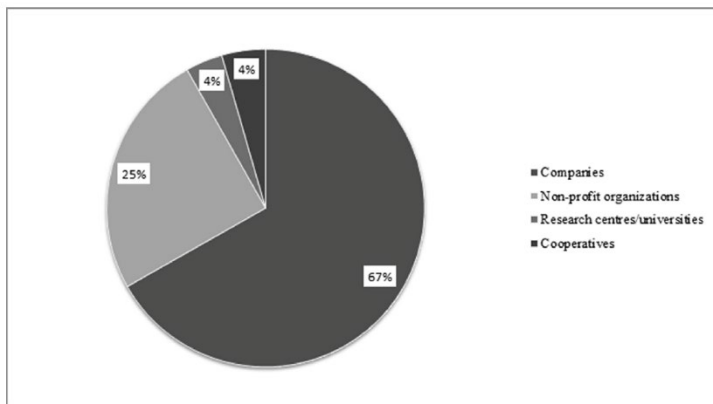
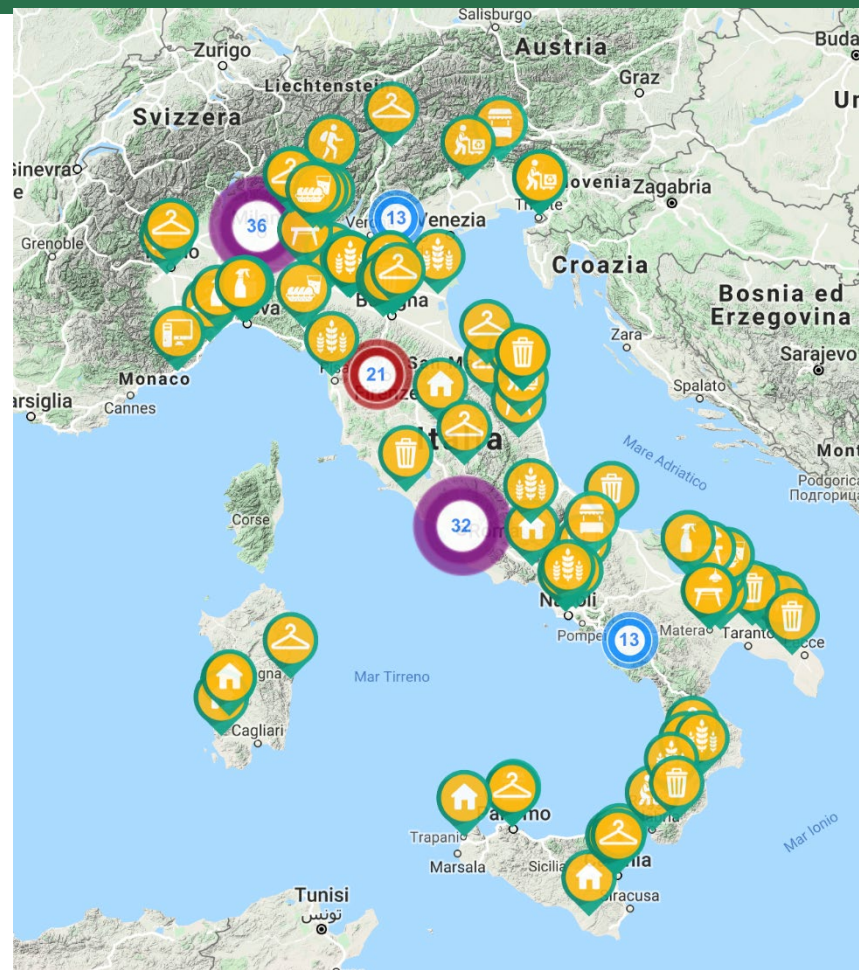


Fig. 5. Share of each type of organization included in our sample.



Distribuzione per settore

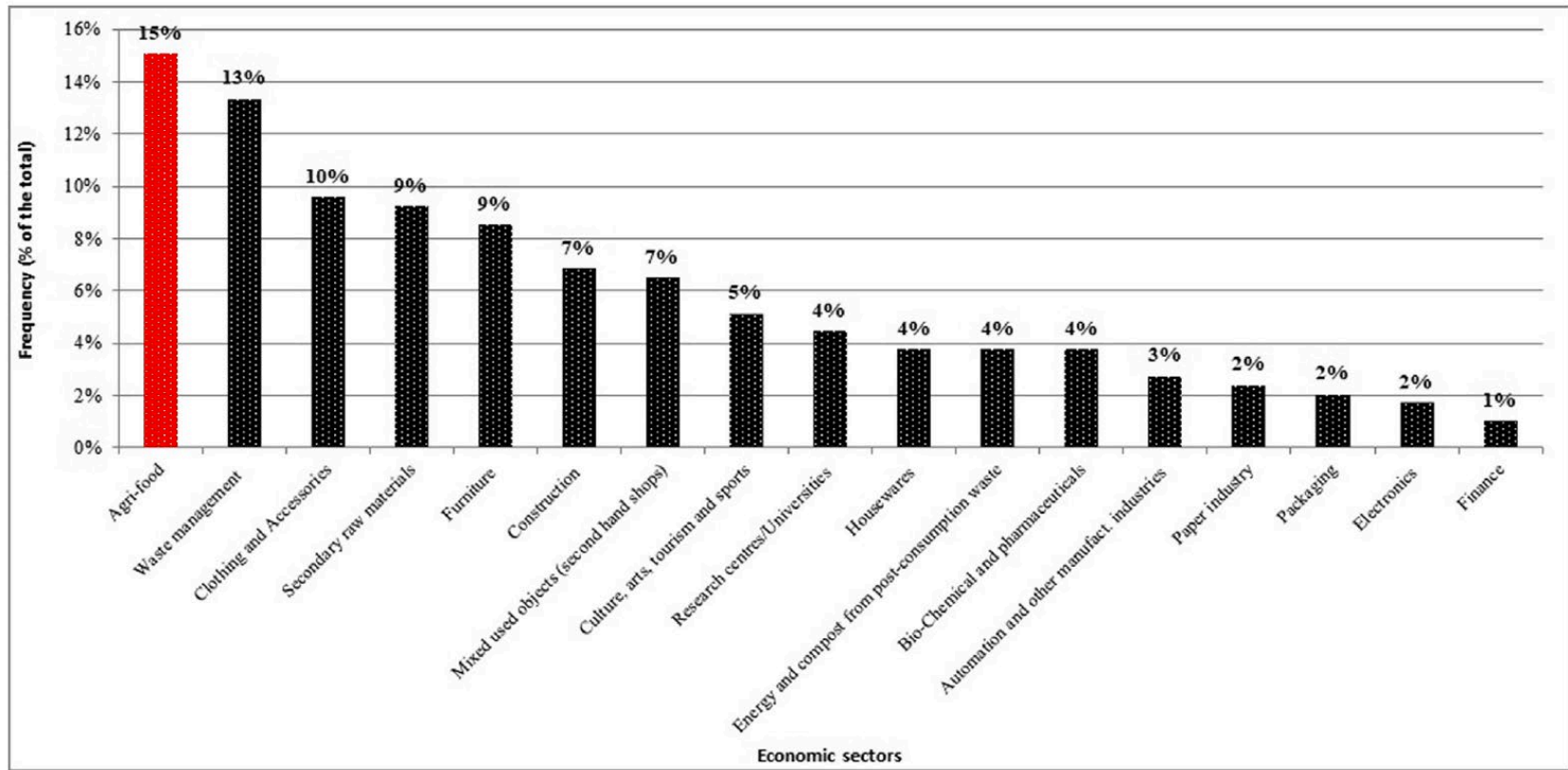


Fig. 6. Distribution of the organizations in the sample according to the economic sectors.

Distribuzione per settore

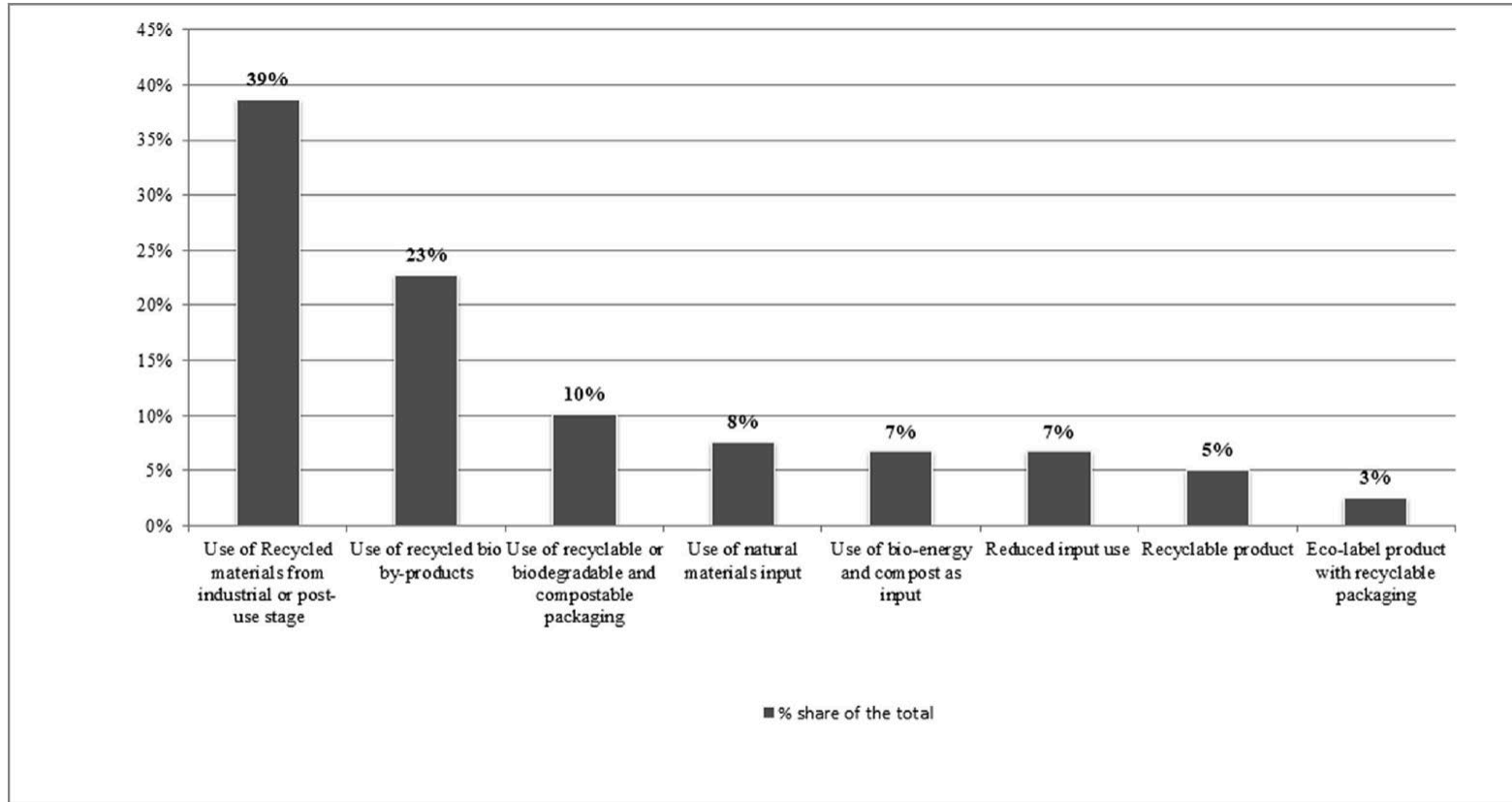


Fig. 8. Distribution of the different CE practices in the organizations of the sample.



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