



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 817949



Innovazione contrattuale per la produzione di beni pubblici da parte di agricoltura e foreste: limiti, opportunità e prospettive nel contesto della riforma della PAC

Davide Viaggi
Università di Bologna

21 settembre 2022 ore 9,30-13,00
Sala "20 maggio 2012" - Viale della Fiera, 8 - Bologna



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Policy & Beni pubblici ambientali

- Lunga storia
- Aumento importanza ma cambiamento di focus (ecosystem services, climate change, circularity, ...)
- Cambiamento ruolo/sensibilità consumatori/cittadini
- Cambiamento dei contesti: orientamento al mercato, sostenibilità, bioeconomia
- Lenta (?) transizione
- Risultati passati insoddisfacenti
- Green Deal, FtF & riforma PAC
- RUR03 topic: focus sugli aspetti contrattuali
- **->devil in the detail**



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Cosa c'è che non va nella PAC attuale (sul tema ambientale)?

- Insufficienti risorse per ambiente e paesaggio:
 - 25% 1 pilastro su ecoschemi
- Strumenti non efficaci/efficienti:
 - Pagamento in base ai costi non adeguato->pagamenti a risultato
 - Scarso coordinamento sul territorio o tra attori->azioni collettive
 - Incoerenza con il mercato->pagamenti legati alla filiera e al consumatore



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The Project in short

- CONSOLE - CONtract SOLutions for Effective and lasting delivery of agri-environmental-climate public goods by EU agriculture and forestry
- H2020, (GA 817949), 1/5/2019-30/4/2022
- 24 partners in 13 countries
- Budget: 5 Meuro
- Main objective: to boost innovation in the lasting delivery of Agri-Environmental-Climatic Public Goods by EU agriculture and forestry



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Partners

The CONSOLE project is based on the mobilization of 24 institutions, covering a broad range of actors (farmers, organizations, researchers, public administration, consultant companies, ...).





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Tipi di contratti studiati

- 1) prescrizioni ambientali collegate a contratti di affitto/uso
- 2) pagamenti a risultato
- 3) contratti ad implementazione collettiva
- 4) contratti lungo la filiera (es. contratti di produzione con prescrizioni ambientali)



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A che punto siamo in Europa

- No statistiche generali
- Molti casi su scala in genere locale
- Iniziative da diverse fonti (non solo o non tanto policy)



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Obiettivi del progetto

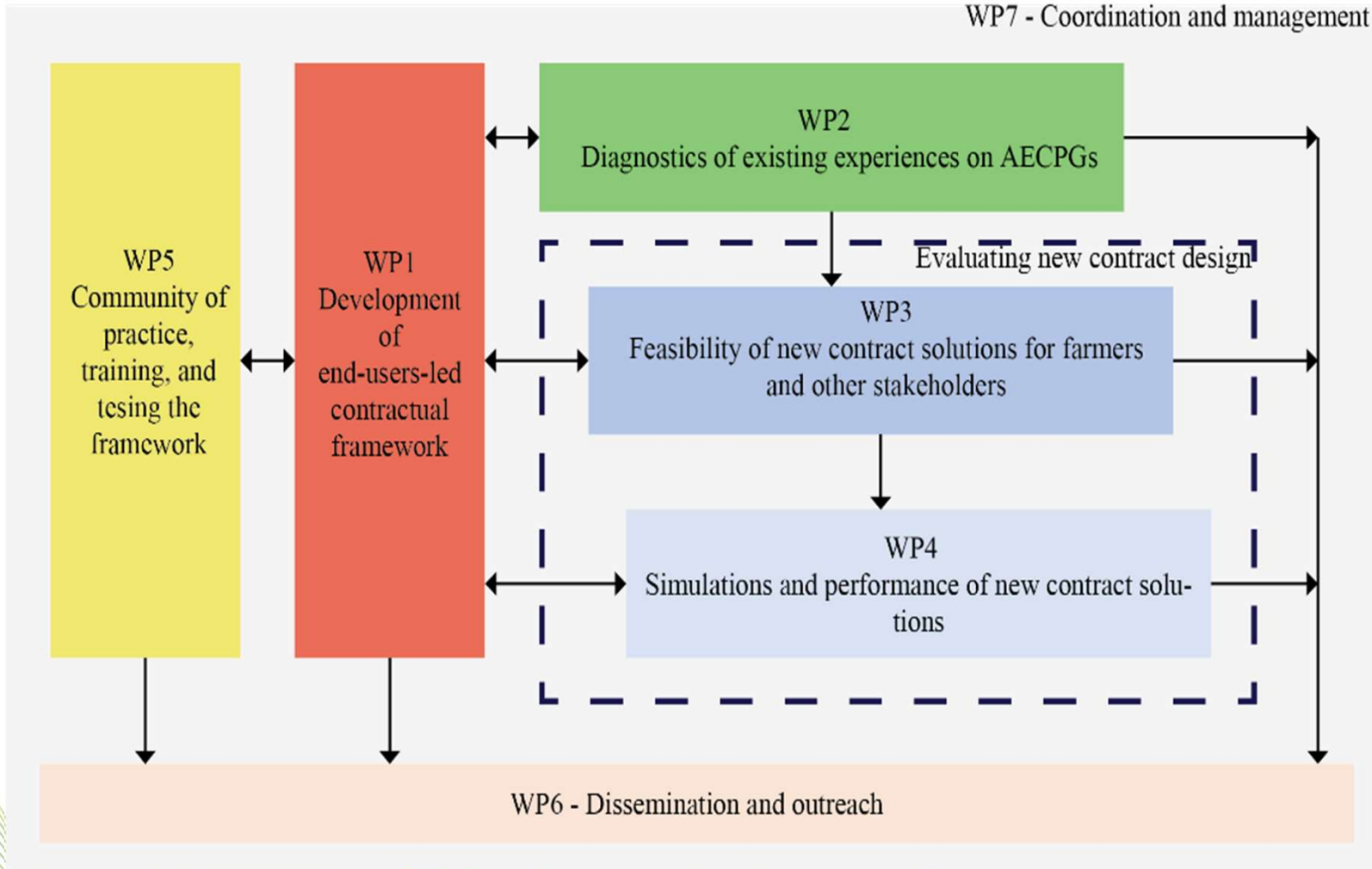
1. Sviluppare un framework di supporto alle decisioni (WP1)
2. Distillare lezioni da esperienze in corso (WP2)
3. Valutare l'accettabilità di soluzioni contrattuali innovative da parte degli agricoltori (WP3)
4. Valutare le performance economiche, sociali e ambientali delle soluzioni innovative (WP4)
5. Sviluppare una comunità di pratica (WP5)
6. Rendere i risultati accessibili (WP6)



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WP7 - Coordination and management





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Un quadro di riferimento concettuale (ma non solo)





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Grazie

For further information:
davide.viaggi@unibo.it or...



www.console-project.eu



www.facebook.com/Console.project



www.linkedin.com/in/console-project



www.twitter.com/ProjectConsole



<https://www.youtube.com/channel/UCEqajFjQBnUmYTifo3unZ>





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CONSOLE

Alcune lessons learned e direzioni per la PAC

- I nuovi strumenti sono fattibili, ma:
 - Ogni strumento implica dei trade-off
 - No ricette standard
- Alcune indicazioni:
 - Importanza del contesto legale (locale e internazionale)
 - Importanza degli aspetti tecnologici per monitoraggio e misura
 - Intermediari e approcci multi-attore
 - Ruolo della filiera
 - Importante chiarezza su benefici, costi (incl. Costi di transazione), incentivi
 - Upscaling e replicabilità
- Processo di apprendimento->sperimentare!



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Dove va l'EU: Green Deal

- investimento in tecnologie rispettose dell'ambiente
- sostegno all'industria ai fini dell'innovazione
- introduzione di forme di trasporto privato e pubblico più pulite, più economiche e più sane
- decarbonizzazione del settore energetico
- garanzia di una maggiore efficienza energetica degli edifici
- collaborazione internazionale per migliorare gli standard



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Dove va l'EU: Farm to fork 1

1. assicurare la produzione sostenibile di alimenti
2. garantire la sicurezza alimentare
3. stimolare pratiche sostenibili nel food processing, commercio all'ingrosso, commercio al dettaglio, ospitalità e food services
4. promuovere consumi alimentari sostenibili e facilitare il cambiamento verso diete più salutari e sostenibili
5. ridurre perdite e sprechi alimentari
6. combattere le frodi alimentari lungo la filiera



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Dove va l'EU: Farm to fork 2 (obiettivi al 2030)

- 1.- 50% rischio totale generato dai fitofarmaci
- 2.- 50% fitofarmaci ad alto rischio
- 3.- 50% perdite di azoto
- 4.- 20% uso di fertilizzanti;
- 5.- 20% vendite di antimicrobici per allevamenti e acquacoltura;
6. Agricoltura biologica al 25% della superficie agricola Europea
- 7.- 50% sprechi alimentari



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Casi di studio

NOT VALIDATED BY THE INITIATIVE

Kromme Rijn Collective management

In the Netherlands, the implementation of agri-environmental measures and nature conservation measures in farmland is partly arranged collectively, where local cooperatives arrange and execute measures. The Kromme Rijn is a region in the Dutch province of Utrecht, where such a cooperative is active. It executes agri-environmental management and there are a few volunteer groups e.g. involved in pollarding willows.



Summary

Collective implementation of agri-environmental management has been started up throughout the Netherlands since 2016. After individual management had proven to fail to deliver the desired agri-environmental-climate public goods (AECPGs), a larger-scale implementation of agri-environmental management was considered a more feasible and promising solution. In the central Dutch province of Utrecht, a wide variety of AECPGs is required by society and farmers. This includes improvement of water quality, enhancing and emphasizing the landscape diversity that supports recreation, and providing a habitat for species including bats and owls. In the eastern half of the province, the Kromme Rijn region, the "Agrarisch Natuur Collectief Utrecht Oost" (agricultural nature collective Utrecht East) organizes the large-scale nature management. Land owners are members of the collective, which organizes payment for specific nature management actions performed by farmers, monitors, and brokers between land owners and organizations / companies that implement some specific nature management actions, based on a common regional management plan. The collective is certified by the national certification institute for agri-environmental management and has its own quality assurance controllers.

Objectives

Objectives are set by the provinces. In the case of Kromme Rijn, the province of Utrecht defines targets in its annual nature management plan. Defined are targets for nature, landscape, agricultural nature and landscape management. Landscape management targets at fostering landscape diversity. The ANLM aims at maintaining landscape elements characteristic on the levees are tree lines, small patches of forests, wooded banks, ponds, and small traditional orchards. The lower and wetter part of the region, Langbroekerwetering, contains small patches of wet species-rich grasslands that are extensively managed through mowing, combined with tree lines and small fields. Creating habitat for amphibians, including the great crested newt, for several owls, and several bat species. Creating habitats for threatened species of extensive traditional arable lands.



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Problem description

Agri-environmental management has been introduced in the Netherlands in 1975. 1000 km² were assigned as agriculture-nature area and managed by nature organizations, another 1000 km² included "normal" farmland, on which farmers planned their farmland and management practices in a nature-friendly way. Since the year 2000, it became increasingly apparent that farm-level agri-environmental management was not effective, because target species required a larger mosaic of land use and land cover than can be provided on a single farm. In 2016, agri-environmental management by nature collectives has been introduced by the Dutch government.

COLLECTIVE



PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Soil quality (and health)



Water quantity



Water quality



Cultural heritage



Recreational access / Improvements to physical and mental health

The Humus-Program of the Ökoregion Kaindorf

Result-based contract solution - farmers follow recommended measures to build up humus (=soil organic matter) in soil, sequester CO₂ and receive a fee per ton of stored CO₂. Companies finance humus build-up and soil carbon storage by buying CO₂ certificates.



Summary

The Humus-Program of the "Ökoregion Kaindorf" is a contract solution developed for voluntary trading of CO₂ certificates: Based on an initial soil sampling at the start of the contract (by a certified civil engineer and accredited national laboratory), farmers set own measures to increase the humus content in their soils. After a period of three to seven years (according to the farmers needs), humus content is determined again by a second soil sampling. An increase in humus content is converted into additional tons of CO₂ stored in soil. Farmers receive a success fee of 30€ per additional ton of CO₂ stored, which is financed by companies who voluntarily compensate their unavoidable CO₂ emissions. The amount of CO₂ purchased by the companies cannot be traded. After the payment, farmers must guarantee that the increased humus content remains in place for at least five years: This requirement is verified by a third soil sampling taken five years after the payment. Decreases in humus levels lead to partial or complete refunding of the success fee. Contracts and the carbon verification is organized and managed by the association "Verein Ökoregion Kaindorf" while emission trading is managed by an own Ltd.

Objectives

- Main objective: humus (soil organic matter) accumulation and soil carbon sequestration
- Higher soil fertility – soil organic matter supports life in the soil, which is the basis for vital crops and reduces the need for mineral fertilizers and pesticides
- More reliable harvests through resilient crops – living soil supports resistant plants in the face of global climate change
- Keeping the soil in place – humus-rich soils rich are more resistant against erosion by heavy rainfalls, flooding or wind
- Humus-rich soils store lots of water, which helps to maintain stable yields during droughts
- Keeping the groundwater clean – soils rich in humus can fix more nitrate and prevent groundwater pollution
- Climate change mitigation through CO₂ fixation – soil organic matter contains about 60% carbon, hence building up soil humus removes CO₂ from the atmosphere and helps to mitigate global overheating



(A) Humus-farmers receive their success fees in a public ceremony each January. (B) Onsite know-how transfer during a field day. (C) Year-round education for humus-farmers through the "Humusakademie" workshops.

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RESULT-BASED



The payment depends on a defined result (stored CO₂ as humus per hectare, measured)

PUBLIC GOODS



Climate regulation-carbon storage



Soil quality (and health)

LOCATION

AUSTRIA



Participation in the contract solution is open to all farmers across Austria.

ECO-METHANE – Rewarding dairy farmers for low GHG emissions in France



With the ECO-METHANE program, farmers commit to provide a monthly analysis of the fatty acid profile of their milk and to feed their cattle with rich-omega 3 feed intake (mainly through grass feed) and by doing so to decrease the methane emissions of their cattle. In 2019, 617 farmers were engaged in this result-based method.

Summary

The Eco-Methane program is a private-private result-based contractual solution. Methane emissions of dairy cows are estimated by frequent and regular infra-red analysis of their milk. Indeed, there is a correlation between an equilibrated feed ration, the composition of milk fatty acid and the emission of enteric gas (methane) by dairy cows. Farmers' payments depend on the difference in their methane emissions to a regional reference. They also depend on the donations by private companies to support their effort. Funds are collected by the Bleu-Blanc-Coeur fund for health-oriented agriculture and payments granted by the private association "Bleu-Blanc-Coeur" that also governs a food brand based on better animal nutrition for healthier human food. The Eco-Methane method has been recognized by the French Ministry of Ecology in 2011 and by the United Nations in 2012, as a specific methodology for projects of methane emissions reductions of digestive origin through the feed of dairy ruminants.

Objectives

1. Reduce GHG emissions
2. Increase zootechnical performances of the dairy cattle



Problem description

Animal breeding contributes for 14,5% of global GHG emissions (FAO) and on a dairy farm, the methane emitted by cows represents more than 50% of the total GHG emissions of the farm. This contract solution was implemented in France with the initiative of a feed company and the association Bleu-Blanc-Coeur. Bleu-Blanc-Coeur is a label that focuses on the nutritional benefits of consuming products from animals fed with omega-3 rich feed ration. Furthermore, there is a correlation between an equilibrated feed ration, the composition of milk fatty acid and the emission of enteric gas (methane) by dairy cows. They have used the program Eco-Methane to encourage dairy farmers that could not be involved in their label (due to a lack of local adapted structures) to adopt practices that would reduce their methane emissions. The Eco-Methane method has been recognized by the French Ministry of Ecology in 2011 and by the United Nations in 2012, as a specific methodology for projects of methane emissions reductions of digestive origin through the feed of dairy ruminants.

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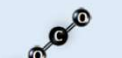
RESULT-BASED



Each farmer commits individually to provide each month its milk analysis to the association Bleu-Blanc-Coeur. The milk analysis provides the composition in fatty acid that can be directly linked to methane emissions.

The commitment to the Eco-Methane program forbids the use of synthetic chemical adjuvants such as synthetic fatty acids, formalin, caustic soda and of all sources of palm (oil and meal) or copra in the cows feed. It also encourages farmers to include in the dairy cows' feed ration a fraction of omega-3 throughout the year, mainly given from grass.

PUBLIC GOODS



Climate regulation - greenhouse gas emissions

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Verso una guida al disegno dei contratti





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Parametri del contratto

- **Prescrizioni legate al possesso del terreno**
- **Riferimento per il pagamento**
- **Livello e tipo di cooperazione**
- **Collegamento con la produzione di beni privati**
- produrre
- Attori coinvolti nel contratto
- (altre) Caratteristiche del pagamento
- Lunghezza del contratto
- Informazione/formazione/supporto previsti dal contratto
- Monitoraggio
- Sanzioni
- Flessibilità
- Eligibilità per la partecipazione
- ...



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Principali Risultati

- Framework teorico e supporto alle decisioni
- Raccolta di casi di studio->60 in tutta Europa (diagnostica+altrettanti extra EU)
- Indagine con agricoltori e stakeholders
- Performance basate su modelli di simulazione

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COLLECTIVE



PUBLIC GOODS



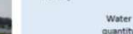
Landscape and scenery



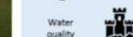
(Farmland) biodiversity



Soil quality (and health)



Water quantity



Water quality



Cultural heritage



Recreational access / Improvements to physical and mental health

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Overview e meccanismi di funzionamento dei contratti studiati



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Alcuni risultati e indicazioni sui contratti studiati



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Prescrizioni legate al possesso del terreno

- Contratti di affitto o altro che includono specifiche prescrizioni ambientali
- Poco noti/studiati
- Rilevanti in caso di:
 - Beneficio per il proprietario, es. detassazione
 - Enti pubblici o benefici (fondazioni, opere,...)



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Pagamenti a risultato

- Il pagamento è collegato all'effetto ambientale (o alla quantità di beni pubblici prodotti), inteso come effetto misurabile (outcome/impatto/benefici) prodotto da pratiche aziendali finalizzate alla produzione del bene pubblico
- Numerose varianti/approssimazioni: result-oriented, effetti stimati, effetti ambientali, etc.
- In teoria necessario per cambio di paradigma/incentivare il risultato
- In pratica trade off/accorgimenti:
 - Possibilità di misurazione in modo robusto (o almeno accettato) (dipende dal bene pubblico)
 - Dettagli di formulazione del pagamento (rispetto a benchmark fisso, relativo ad altri, relativo alla stessa aziende)
 - Raramente applicato in modo "puro" (di solito componente practice-based)



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Pagamenti collettivi

- Gruppo di agricoltori/proprietari e altri attori che creano una entità formale e applicano collettivamente per un pagamento agroambientale. Il pagamento è dato al gruppo e non all'individuo.
- Perché: concentrazione, coordinamento spaziale, collaborazione
- Numerose varianti: cooperative, progetti collettivi tra agricoltori, progetti multiattore, etc.
- Trade off con costi del coordinamento
- Trade off con pagamenti individuali



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CONSOLE

Beni pubblici nei contratti legati alla filiera

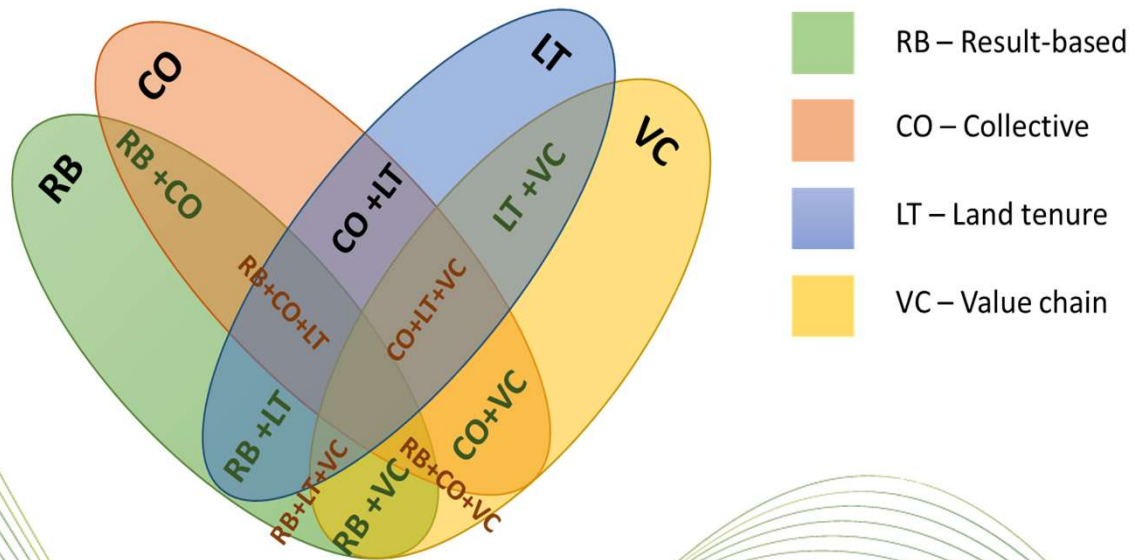
- Pratiche per la produzione di un bene pubblico sono previste in un contratto di produzione di un bene privato
- Perché: fare pagare il bene pubblico al consumatore
- Opportunità: marketing verde, prodotti certificati/di qualità etc.
- Criticità: DAP/consapevolezza consumatori, distribuzione benefici/costi lungo la filiera, marketing vs. benefici ambientali, aumento costi



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Forme ibride



- In realtà quasi tutti i casi reali sono in qualche modo ibridi
- Importante pensare i diversi accorgimenti come soluzioni che possono essere combinate



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Contratti-modello

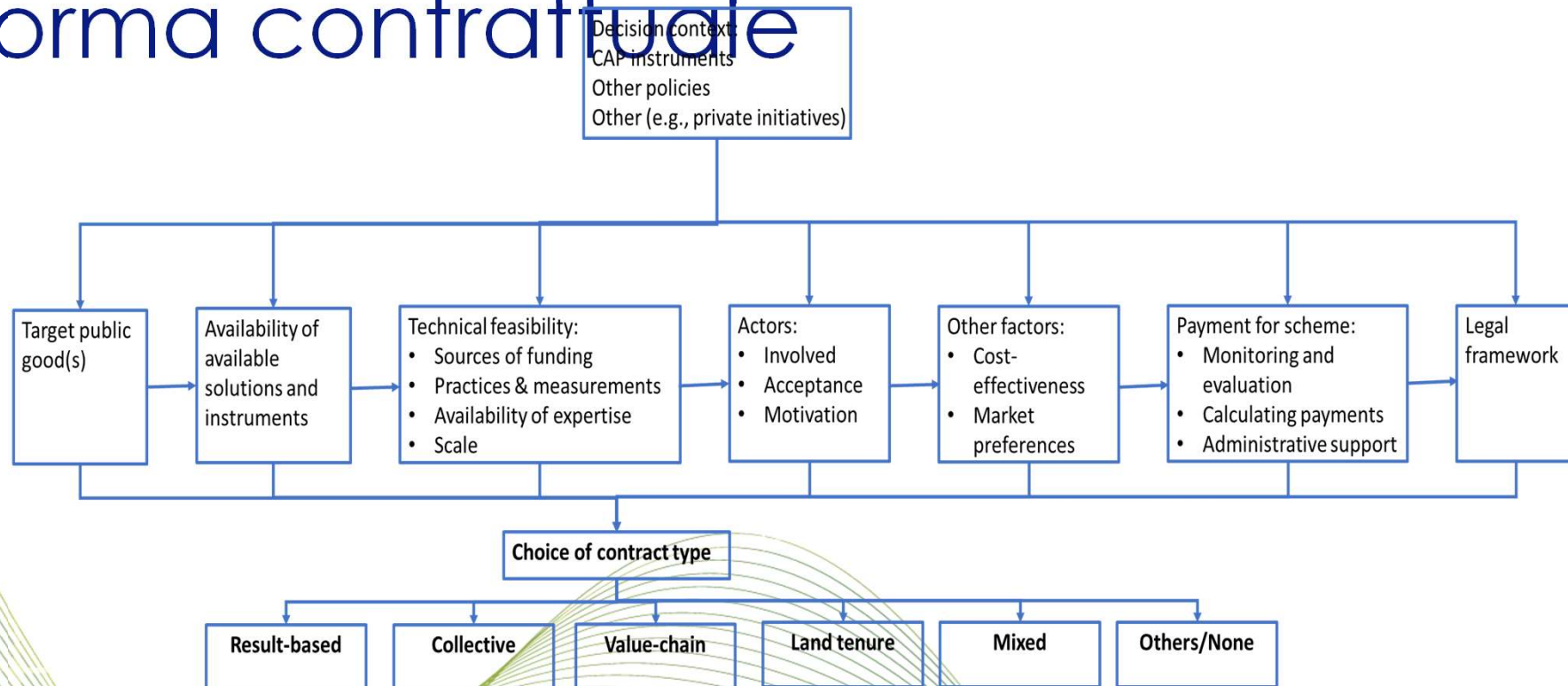
	RB	CO	VC	LT
AECPG Type	Biodiversity, Climate regulation, landscape & scenery	Biodiversity, water-related, resilience to natural hazards, landscape	Environmental benefits, quality and security of products, water-related	Biodiversity & habitats, Landscape & scenery
Actors involved	Farmers, NGOs, market players, gov. bodies, consumers, banks, etc.	Farmers, landowners' association, govt & private bodies	Private companies, citizens or consumers, Non-profit organisations, govt bodies	NGOs, private organizations, Government bodies, Landowner association etc
Payment type and characteristics	emission certifications, Incentive payments, Payment for product	Compensation, incentive & product wise	Payment for brand, product, online donations	paid by rate per area, length, or quantity, Land lease
Length of contract and renewal	Short-term to long term, renewal	Short-term to long term, renewable	Short- to medium-term, renewable	Medium- to long-term
Information, advisory, or training in scheme	free by public body, private experts, NGOs, etc.	available within collectives or cooperatives	provided for free by private actors	By land managers, project stakeholders, etc.
Funding	Public funding (incl. from EU) + private funding	Public funding	Private funding	Private funding
Monitoring	Monitoring by public & private bodies	monitored by government or private experts	Strict monitoring, by processors or private bodies	No controls or only self-monitoring by landowners.
Sanctions	Non-compliance leads to termination or payment reduction	non-compliance can lead to termination of contract	non-compliance can lead to prohibition of the brand use	
Flexibility	High degree of flexibility	High flexibility to collectives, unless it is a hybrid.	Higher flexibility of management practices, Low flexibility for quality of the product	High flexibility, no strict conditions for participation
Conditions of participation	Some do not allow farmers to participate in other AES	A minimum number of farmers need to participate	Conditions for using brand name & exclusivity	Some contracts require farmers to participate for fixed duration



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Alberi decisionali per la scelta della forma contrattuale

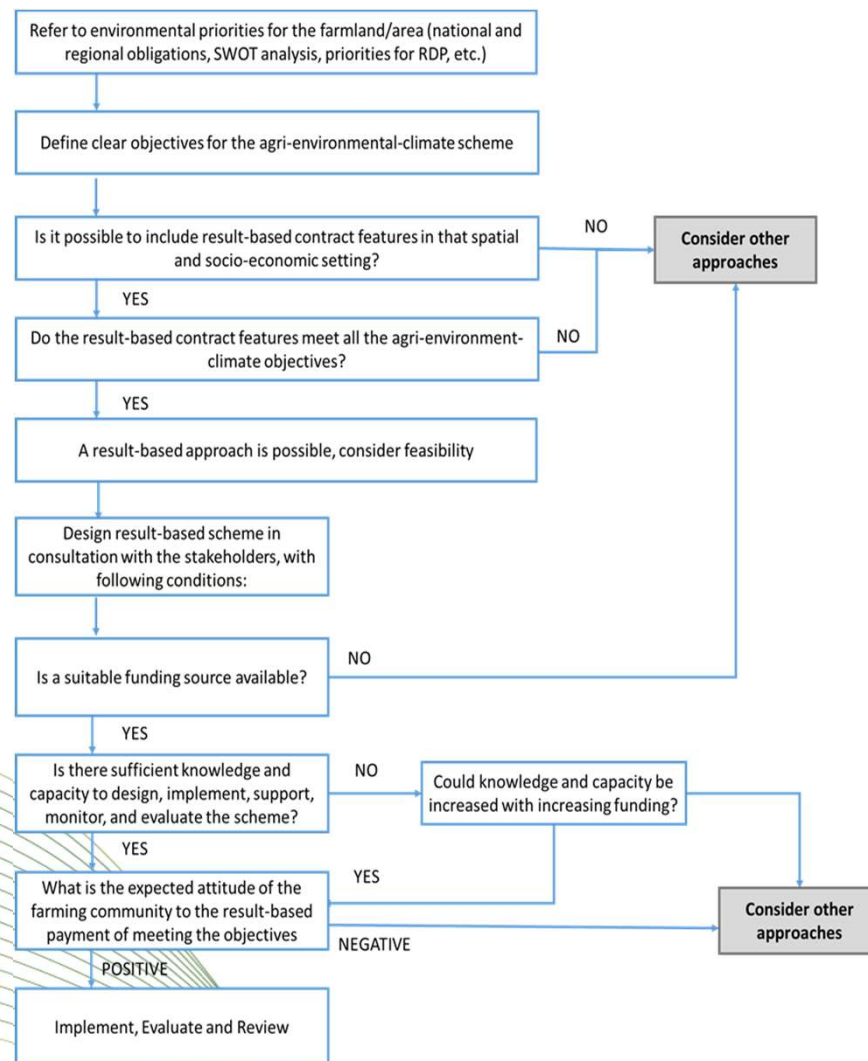




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Albero decisionale per il disegno del contratto (result-based)





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Un po' di background

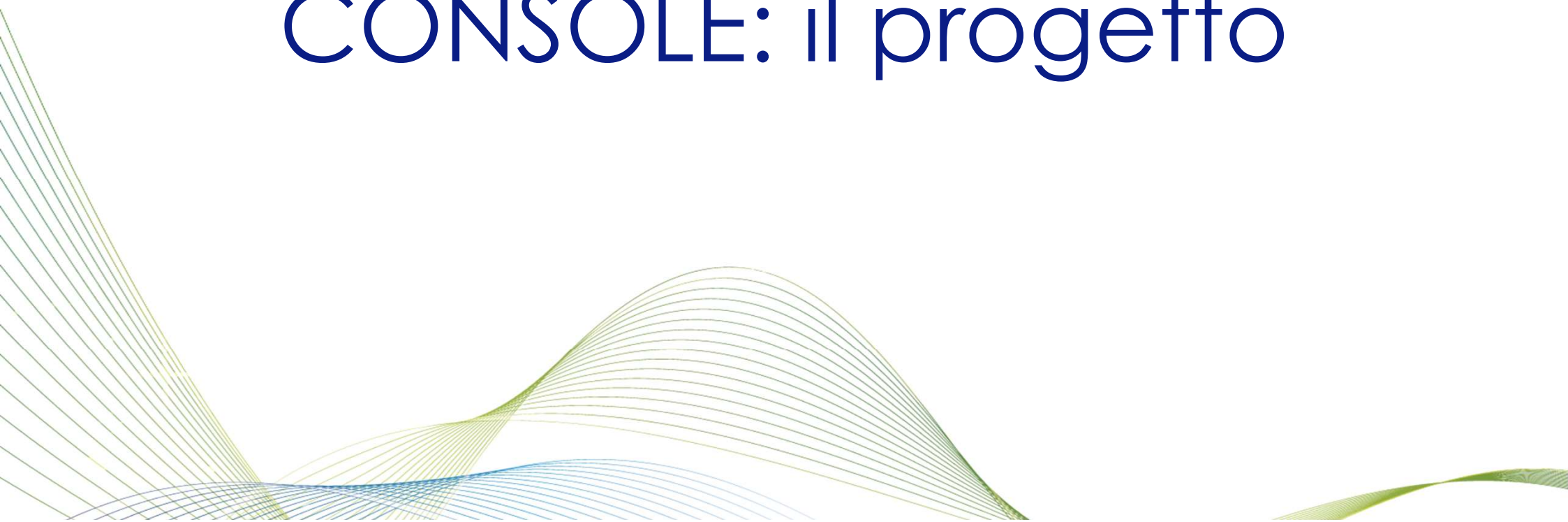




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CONSOLE: il progetto





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Attenzione a forme ibride e soluzioni creative

- Pagamenti misti (pratiche+risultato)
- Pagamenti a risultato in contratti tra privati (ruolo policy)
- Ruolo filiera, cittadini e consumatori in contratti collettivi
- Intermediari: banche, ONG, industria, distribuzione, etc.
- Sfida per gli strumenti collettivi: integrare enti diversi (agricoltori, enti territoriali, filiera,...)