

WP5 – Ex-ante analysis of novel contracts

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contracts**2.0**

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- T5.1: Preferences for new result-based and practice-based schemes and other contract characteristics
- T5.2: Viability of collaborative approaches
- T5.3: Model consumer preferences and perceptions of ‘label-based’ approaches to stimulate the provision of ecosystem services within the value chain
- T5.4: Evaluation of the capacity of experimental economics methods to improve the development of agri-environmental schemes

T5.1: Preferences for new result-based and practice-based schemes and other contract characteristics



- **Month:** 4-42
- **Lead:** UW
- **Partners involved:** UW, SLU, ZALF, UW
- **Close links to other WPs:** WP2, WP3, WP4
- **Methods:** Stated preference methods, Discrete Choice Experiments

- **M5.1.1:** The final version of the survey instrument ready (month 18)
- **M5.1.2:** Modelling results on farmers' preferences for results-based payments schemes ready, to be used as input for WP3 (month 30)
- **D5.1:** Scientific paper (submitted) on farmers' preferences for results-based payments schemes (month 42)

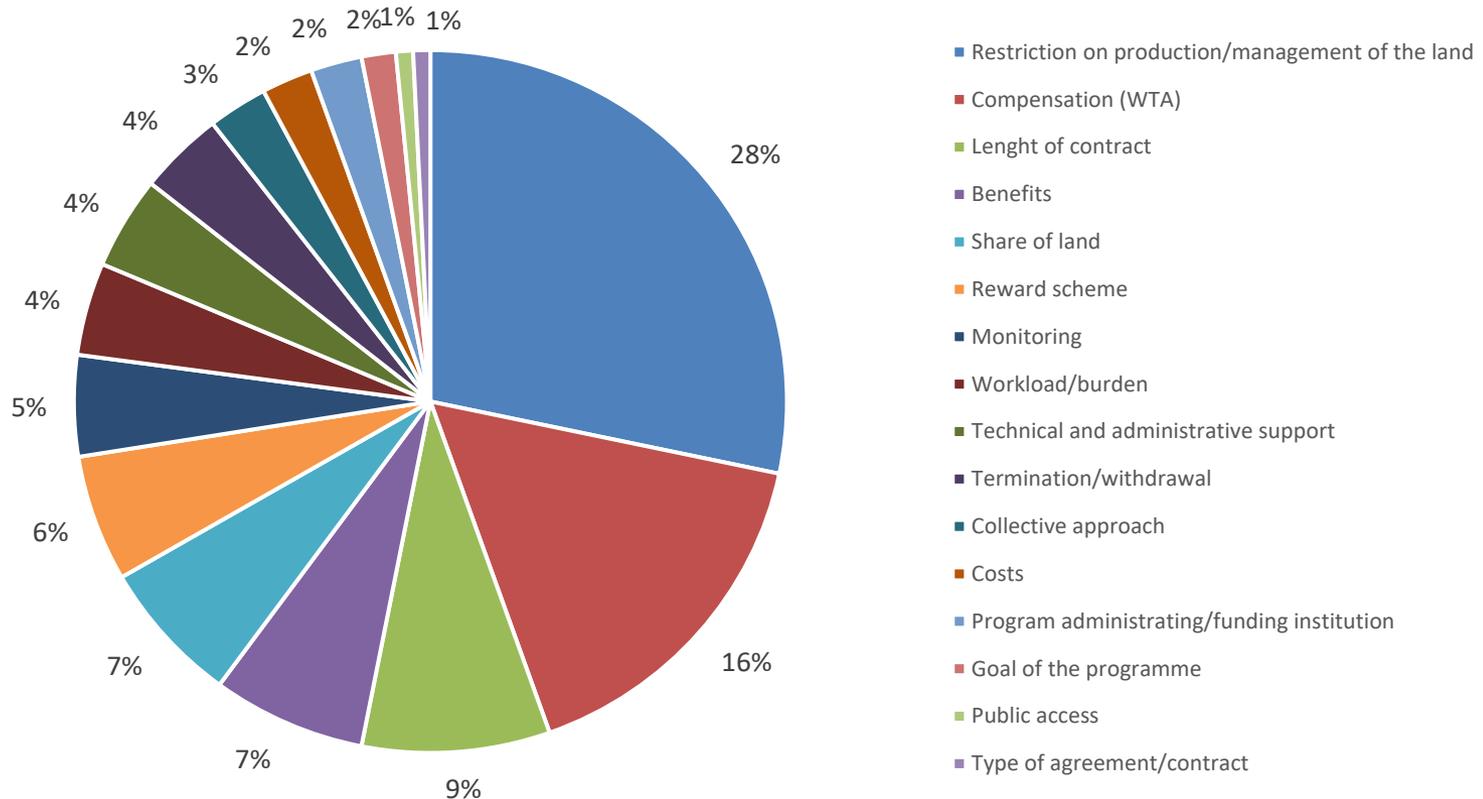
T5.1: Preferences for new result-based and practice-based schemes and other contract characteristics



- Farmers' preferences for various design features of new schemes
- Discrete choice experiments (DCE) in Germany, Poland, and Netherlands
- Focus on, for example:
 - result vs. activity-based measures
 - farmers' interactions with the environment and social groups (e.g., collaborative approaches)
 - the importance of information and knowledge
 - risk reducing mechanisms
 - flexibility
 - other
- The design of the DCEs informed by the most up-to-date empirical studies in the field, as well as new ideas and developments including the ones discovered through the 'institutional design laboratories' (WP3, WP4)
- Administer the same survey to other stakeholders
- Identify and analyze the sources of observed heterogeneity, with respect to socio-demographic and farm characteristics

DCE on AES – literature review

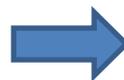
- 140 choice experiments on farmers, foresters, fishermen
- 80 on farmers' preferences for agri-environmental measures (WTA)



Compensation (WTA payment)

- Standard: €/ha/year
- Framing: payment/compensation/subsidy
- Alternatives:
 - redemption of fees, bills, tax benefits, market value/price premium
 - weekly payments (developing countries)
 - one-time payments
 - cost ceiling for compensation
 - floor price on products
 - full coverage of investment costs

				
	Set-aside contract	Catch crop contract	Fertiliser technology contract	None of these contracts
All 3 photos are from colorbox.				
Area you will enroll in the contract, percentage of your farmed area inside rotation	10	15	100	
Length of contract, number of years	1	10	5	
Termination - flexibility to cancel contract	Possible with refund	Possible without refund	Not possible	
Advisory assistance	Charged	Free	Free	
Subsidy (EUR/ha)	51	11	41	
Your ranking of the contracts from the most (1) to the least (4) preferred	1	4	3	2



Restrictions

- Description of agricultural measure
- Framing:
 - restriction
 - obligation
 - min. requirements (result-based)
 - investments
- Labelled choices / multiple practices

Attributes and respective levels				
Attributes	Description	Levels		
Payment	Compensation rate (euros per hectare crop)	€30/ha	€60/ha	€90/ha €120/ha
Flexibility	The freedom to decide how much of the total area enrolled in the contract can be excluded without penalty each year after contract agreement. A maximum of 40% can be excluded	0%	40%	
Fine	Amount of money to be paid if the farmer is caught cheating (in addition to the return of the payment). It will be applied for any infringement of the law*	€0/ha	€200/ha	
Cultivate	Obligation to include alfalfa or sainfoin as a percentage of the crop area	0%	20%	
Restriction	Prohibition of working in fallow lands in some months of the year in order to allow nesting	No restrictions	April 1–August 1	

Attribute	Description	Levels
SPECIES	The number of waterfowl (bird) species necessary for receiving payment	Quantitative variable: 1 species; 2 species; 3 species
MONITOR	The number of species is monitored and reported by the farmer	Dummy variable: 1 if yes; 0 otherwise
TA	Technical assistance of effective farming for achieving the outcome	Dummy variable: 1 if available; 0 otherwise
CERTI	Eco-certification for outcome-achieved farming products	Dummy variable: 1 if available; 0 otherwise
PAY	Payment per hectare when achieving the outcome	Quantitative variable: JPY 60,000/ha; JPY 80,000/ha; JPY 100,000/ha; JPY 120,000/ha

	Inorganic fertiliser use	Farmyard manure use	Grip blocking	Agreement length	Compensation payment	My choice (Choose only one option)
PROGRAM A	Apply your current level of fertiliser	Apply your current level of manure	Maintain existing grips	3 years	£2 per acre	
PROGRAM B	Apply 25% less fertiliser	Apply 50% less manure	Allow 50% of grips to be blocked	5 years	£4 per acre	
PROGRAM C	Apply 50% less fertiliser	Apply 25% less manure	Allow 100% of grips to be blocked	10 years	£10 per acre	
Do nothing	I do not wish to participate in any of the programs					

				
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All 3 photos are from colorbox.				
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Length of contract, number of years	1	10	5	
Termination - flexibility to cancel contract	Possible with refund	Possible without refund	Not possible	
Advisory assistance	Charged	Free	Free	
Subsidy (EUR/ha)	51	11	41	
Your ranking of the contracts from the most (1) to the least (4) preferred	1	4	3	2

Length of contract and termination

- Length – minimum number of years
- Termination – option to withdraw land (part/all) without penalty
- Extreme: permanent contract

Attribute	Description (name of corresponding variable)	Levels
Purpose of afforestation	Biodiversity implies that the afforested area mainly consists of broadleaved trees (biodiversity)	Biodiversity
	Ground water protection implies that the ground preparation is minimal and no pesticides/herbicides can be used (ground water)	Ground water protection
	Recreation implies that there has to be established walking paths and parking areas (recreation—reference)	Recreation
Option of cancelling the contract	The contract is either permanent or may be cancelled within 5 (Cancel 5) or 10 years (Cancel 10). If the contract is cancelled, the subsidy has to be paid back to the state (with a specified interest rate) and the landowner is then free to return the area to arable land	Option of cancelling within 10 years Option of cancelling within 5 years
	A permanent contract means that the area will be forest reserve in perpetuity (permanent—reference)	Permanent contract
Monitoring	A fraction of the landowners who accept a contract will receive a visit by the authorities in order to check landowners' commitment (monitoring, 0% is reference)	1% will be monitored 10% will be monitored 25% will be monitored
Compensation	The compensation is the amount of Euro the landowner receives as a one-time payment per ha (compensation)	€3,600–5,600 per ha (in steps of €400)

Attributes	Alt_1	Alt_2	Alt_3
Area of land converted to permanent grassland	15%	50%	
Area of land for afforestation	5%	15%	
Grazing Intensity	Extensive grazing	Intensive grazing	
Ploughing methods	Conservation till	Conventional till	I do not want to participate
Length of agreement	2 years	20 years	
Compensation (€/ha)	€50	€25	
I would choose to participate in (tick only one)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Box 1 Excerpt from the Survey Choice Experiment Instrument.

Block 1

Ok, now we will formally begin to ask you to compare and choose. You can choose one of the three program schemes. If you do not like any of the three schemes, you can also choose not to participate in the program.

*In the survey just completed, your household in total used ___ of pesticides (fill in the amount used) in 2011.

Choice group 1

	Program Scheme 1	Program Scheme 2	Program Scheme 3	Don't participate in the program
Contract length	1 year	5 years	10 years	
Release option	You can leave the program without penalty.	You can leave the program without penalty.	You cannot leave the program.	
Land area enrolled	20% of your land will be enrolled in the program.	50% of your land will be enrolled in the program.	100% of your land will be enrolled in the program.	
Pesticide use reduction	During the contract period you will, with guidance, reduce annual pesticide use by 10% in comparison to 2011.	During the contract period you will, with guidance, reduce annual pesticide use by 30% in comparison to 2011.	During the contract period you will, with guidance, reduce annual pesticide use by 20% in comparison to 2011.	
Annual cash subsidy	CNY 80/mu*	CNY 50/mu	CNY 120/mu	

*1 mu = 1/15 ha

Benefits

- Private:
 - change in yields
 - market prices
 - soil quality and productivity
 - costs (limited inputs, such as pesticides)
- Public:
 - education and health
 - changes in agri-biodiversity, water availability, landscape features

Determinants of adoption and variables	Definition
<i>Innovation attributes / technical nature</i>	
INTERCROP	1 if innovation includes intercropping
VARIETY	1 if innovation includes new variety
FALLOW	1 if innovation includes rotation or improved fallow
<i>Innovation attributes / economic impacts</i>	
YIELD	Banana yield (ton/ha/year)
PRICE	Banana farm-gate price (€/box)
PEST	Amount of pesticides active matter used (kg/ha/year)
WORK	Amount of work needed for crop management
SUBS	Subsidy for innovation adoption (€/ha/year)

Options	Scenario A	Scenario B	Scenario C
Weed control technology	Manual weeding	Mechanical weeding	Leave the land unexploited
Crop rotation	'Intensive cereal'	'Cereal'	
Varietal choice	Short cycle	Long cycle	
Yield	5 ≤ yield ≤ 7 tons/ha	Yield < 2 tons/ha	
Risk	One year below-average yields	One year below-average yields	
Single payment scheme	0 euros/ha	1,000 euros/ha	

	Alternative A	Alternative B	
Profit Variation in the average yearly profit per hectare	+ 100 euros per year per hectare compared to the current situation	+ 100 euros per year per hectare compared to the current situation	I prefer to conserve my current farming practices (status quo)
Production risk Increase in the frequency of large production losses due to pests	+ 1 year out of 10 years, with large production losses	+ 2 year out of 10 years, with large production losses	
Administrative commitment Administrative framework of the change of practice, if any	Contract (AES)	None	
Health and environmental impacts Reduction in exposure to harmful substances	Exposure to pesticides residues reduced by 20%	Exposure to pesticides residues reduced by 50%	
	<input type="checkbox"/>	<input type="checkbox"/>	

Sustainable aims	Alternatives		
	A	B	Status quo
Protection of soil from water erosion	Construction of temporary furrows sinks at 20 m	Construction of temporary furrows sinks at 40 m	Construction of temporary furrows sinks at 80 m
Maintenance of soil organic matter	Grazing stubble, straw and crop residues	Creation of firebreaks and burying of crop residues	Burning of crop residues
Maintenance of landscape features	very good	good	Sufficient
Agro-biodiversity conservation (% of crop surface cultivated with local endangered species)	70%	70%	0%
Additional payment	1,000 €/ha	600 €/ha	0 €/ha
I prefer:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Share of land

- Standard: minimum % share of eligible land
- Alternatives:
 - configuration
 - rotation of land
 - freedom to decide which land to enroll



	Greening	Water protection	Organic farming	No measures
Contract duration	5 years	3 years	12 years	
Cancellation	No	No	Yes	
Minimal share of farmland	100%	100%	40%	I will not sign a contract
Monitoring	10%	3%	30%	
Effort administration	Medium	Low	Medium	
Compensation	65€	370€	370€	
I choose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- New approach: discrete-continuous

Imagine that the government would like you to set aside two more 'patches' of land on your property for conservation purposes. This would change the configuration of your land

From:  **To:** 

where there is one small patch set aside for conservation where there are several patches set aside for conservation

Would you choose to	Payment (as a % of Total Costs)	Choice
Accept a Conservation covenant , that would require you to pay for the survey costs, and then spend 1-2 days per month 'managing' the extra conservation areas	and receive compensation for 50% of all costs	<input type="checkbox"/>
Or Accept a Conservation management agreement , that would require you to purchase some extra supplies (e.g. fencing) and labour (to put the fences in) and that would require you to spend an extra 1-2 days per month 'managing' the areas	and receive compensation for 50% of all costs	<input type="checkbox"/>
Or Sell your entire property at market value	Market value	<input type="checkbox"/>



Contract attributes	Proportion of land			
	At least 5% of permanent pasture	At least 10% of permanent pasture	At least 20% of the permanent pasture	Non-participation
Fertilisation	Organic permitted	No fertilisation allowed	Organic and mineral allowed	I would choose no contract
First mowing not before	22 June	1 June	22 June	
Maximum grazing with	4 animals/ha	2 animals/ha	4 animals/ha	
Contract period	1 year	10 years	5 years	
Annual compensation payment	€450/ha	€350/ha	€250/ha	
I would choose...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On	___ ha	___ ha	___ ha	0 ha



	Not included	Included	Current situation
Collective and final bonus for each farmer committed if 50% of the vineyard is engaged			
Administrative and technical assistance			
Payment per year and per hectare subscribed	170 €/ha/an	330 €/ha/an	

1. Choose your preferred option →

2. What area of your vineyard would you engage in the chosen alternative? ___ ha

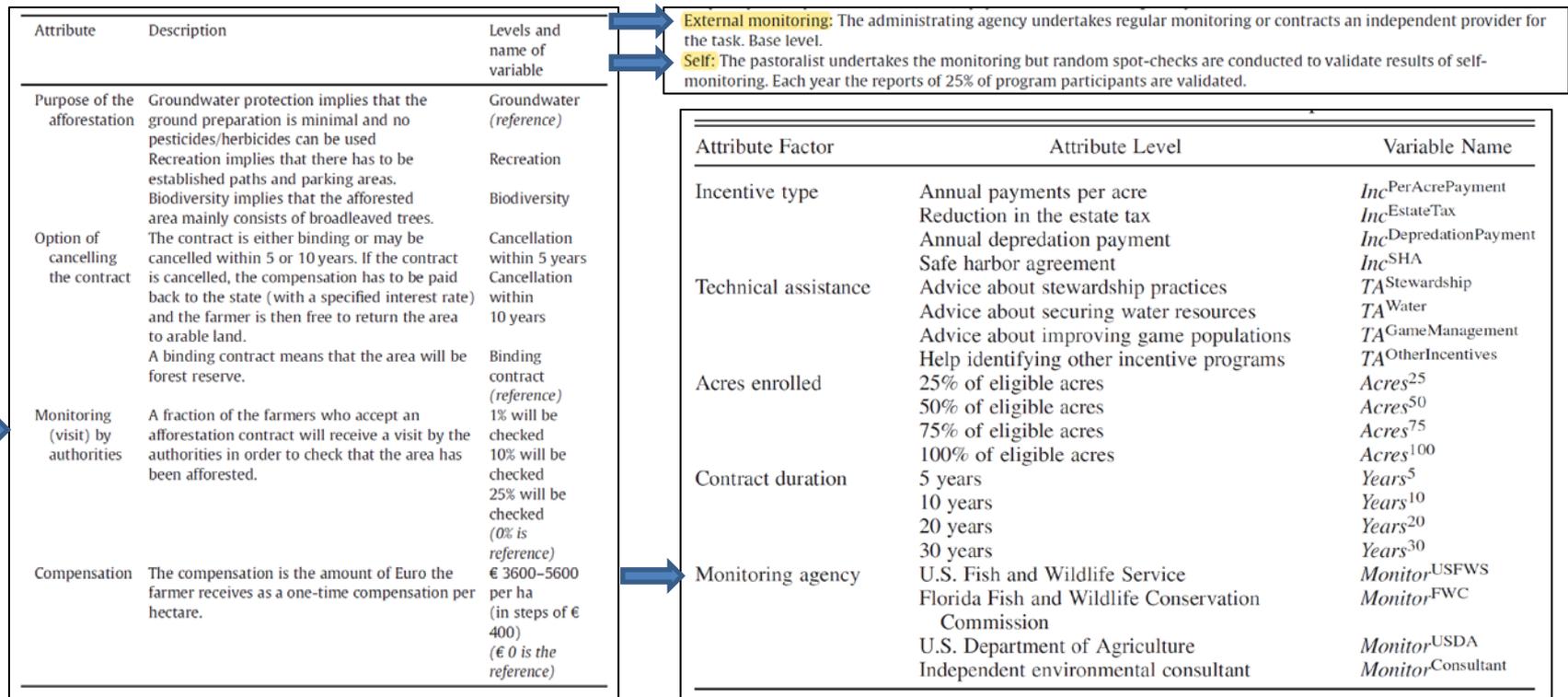
- Besides standard cash payment:
 - loans
 - additional collective payments
 - inputs in kind/subsidies for inputs
 - compensation for construction/investments
 - guaranteed purchase of crops
 - one-off payment at the beginning of the contract
 - redemption of costs and fees
 - personal payment vs. communal fund
 - ideal insurance contract
 - certification/eco-labelling



Attribute	Description	Levels
Individual payment	A payment provided directly to the farmer for maintenance of agroforest (per acre payment, annually)	Approximate USD: 0, 21, 50, 176 ^a
Collective payment	A payment provided to a dedicated village development fund for maintenance of agroforest (per acre payment, annually)	Approximate USD: 0, 21, 50, 176 ^a
Upfront fertilizer payment	A payment provided for a once-off, upfront procurement of fertilizer (value approximately USD 140 per acre)	Approximate USD: 0, 140 (binary variable)
Conditionality low	No inspections—farmers are required to keep a log book documenting farm activities which may be audited	Yes, No (binary variable)
Conditionality moderate	A local villager will be hired by the administrating organization to inspect farmers' farms once per year to ensure no large trees have been removed from forest and agroforest.	Yes, No (binary variable)
Conditionality high	A forestry officer from the administrating organization will inspect farmers' farms twice per year to ensure that no large trees have been removed from forest and agroforest. Also will ensure that there are enough saplings for canopy replacement and that trees present are indigenous species.	Yes, No (binary variable)

Monitoring

- Standard: % of farms monitored for contract compliance
 - Outdated – remote observation and sensing technology
- Alternatives: self/external, various monitoring agencies, regular/irregular



- Number of labor days needed to implement the contract

- administrative burden
- no child labor

- i) land commitment to organic farming (acres) – 25%, 50%, 75%, 100%;
- ii) organic crop price increase (per 100 Rupees) – 5, 7, 9, 11, 13, 15;
- iii) cost of certification per acre (Rupees) – R1,000 as a group, R3,000 as a group, R3,000 as an individual;
- iv) compost price per trolley (Rupees) – R600, R900, R1,200, R1,500;
- v) labour days to compost one trolley – 4, 8, 12, 16.

Attribute	Attribute levels
Herbicide use	Forbidden Training and precise dose No restrictions (OO)
Chemical fertiliser use	Forbidden Reduced dose No restrictions (OO)
Child labour	Forbidden No restrictions (OO)
Fairtrade premium	FT premium (30 FCFA/kg) No FT premium (OO)
Input provision	In cash In kind No provisions (OO)
Selling price	115, 135, 150 (OO), 165, 180, 200 FCFA/kg

Attributes	Levels			
	Level 1	Level 2	Level 3	Level 4
1. Land area to be committed	10% of your land	20% of your land	40% of your land	–
2. Length of commitment period	5 years	15 years	30 years	–
3. Right to harvest products (grass/ fodder/beekeeping)	Permitted	Partially permitted	Not permitted	–
4. Reward scheme/incentive scheme	Waive annual water use cost per acre of land committed	Cover 50% of annual extension service fee per acre of land committed	Waive 50% of annual electricity cost per acre of land committed	Ksh. 4500 per acre of land committed per year
5. Local scheme administering agency	Water Resource Users Association (WRUA)	Focal Development Area Committee (FDAC)	Community Forest Association (CFA)	–
6. Required free labour contribution related to the contractual scheme per month	1 day	2 days	4 days	–

Technical and administrative support



- Training (capacity building)
- Practical assistance with projecting and design
- Collaboration forum
- Tools and qualified labour force provision (ex. veterinary care to animals)



Attribute	Description	Levels	Coding
SUR	Flexibility over the amount of land to be enrolled in the AES	Free 50% eligible surface	1 0
GRAZING	Flexibility over grazing in the land under the AES	Free Limited*	1 0
TTA	Availability of a compulsory and free of charge technical training and advisory service	No Yes	0 1
FIXED_PREM	Availability of a 1000 € one-off payment per contract independently of the area enrolled payable on the first year	Yes No	1 0
PREMIUM	Payment level per ha and year	60 € ha ⁻¹ 80 € ha ⁻¹ 100 € ha ⁻¹	60 80 100

Attribute name	Explanation	Levels	
Width of the riparian buffer strip	Distance between the river and the cultivated area that should be planted with grass and indigenous tree species and can no longer be used for agriculture.	0 m 5 m 10 m 20 m	120
Trenches and grass bunds	Share of the land on which the farmer has to apply contour trenches and grass bunds.	None of the fields Half of the fields All fields	
Soil conserving agriculture	Share of the land on which the farmer has to conserve the soil using mulching, minimal tillage and contour farming.	None of the fields Half of the fields All fields	
Compensation	Amount of money that is paid to the farmer annually if (s)he adheres to the contract.	UGX 90,000 UGX 180,000 UGX 270,000 UGX 360,000	
Mode of compensation	To whom the payment is made; either directly to the farmer, to a fund that can be used for community projects or divided between the two.	Personal payment 50/50 Payment to communal fund	
Assistance	Whether or not the farmer receives additional assistance in the form of the necessary tools, labour force or both.	No assistance Provision of required tools Provision of labour Provision of tools and labour	



Collective approaches

- Neighbors' behavior
- Allocation of support to farmers and options to redistribute it
- Collective bonus
- Agglomeration bonus
- Threshold of participation
- Survival rates

Likelihood of water shortage occurring	1 in 15 years	
Elements of a drought response plan	Plan A	Plan B
Across the board water use reduction (during peak of summer) ...	30%	15%
Water allocated according to ...	sensitivity of crop to water loss	proportional distributions
Opportunity for trading water ...	between all users	none
Impact on watershed's stream health	low	moderate
Please choose one →	<input type="checkbox"/>	<input type="checkbox"/>

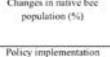
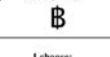
Attribute	Description	Levels	Coding
Purpose	Aim of the contract	Compensation of biodiversity loss	+1
		Conservation of biodiversity	-1
Threshold	Existence of a minimum threshold of participation of 20% of farmers of the area	Opt-out	0
		Yes	+1
		No	-1
Payment	Payment level per ha and year	Opt-out	0
		170€/ha	170
		200€/ha	200
		230€/ha	230
		260€/ha	260
Alternative specific constant	Neither of the 2 contracts	Opt-out	0
		Contract 1 or contract 2	1
		Opt-out	0

Attributes	Common crop rotation	Short rotation coppice	Miscanthus
Average yearly contribution margin (€/ha and year)	300	300	300
Variability (i.e., maximum range) of contribution margin (€/ha and year)	±250	±750	±500
Initial investment (€/ha)	0	7,500	2,500
Guaranteed purchase of harvested crop throughout the plantation's entire useful life	-	Yes	No
Colleagues in the near surroundings cultivate short rotation coppice/ miscanthus	-	No	Yes
Which alternative would you choose?	O	O	O

- Certification
- Inputs
- Initial investment
- Production risks

Attribute	Description	Levels
Profit	Variation in the average yearly profit per hectare	-50 €; +0 € (SQ); +50 €; +100 €
Production risk	Variation in the number of years, out of 10 years, with exceptionally large production losses	+0 year (SQ); +1 year; +2 years
Administrative commitment	Administrative framework of the change of practice, if any	None (SQ); Charter; Contract; Certification
Health and environmental impacts	Reduction in exposure to harmful substances	-0% (only SQ); -20%; -50%; -80%

Please choose the alternative that gives you the greatest satisfaction:

	Policy A	Policy B	No Policy
Bee-friendly pest control 	✓	✗	✗
Improving native bee habitat 	✗	✓	✗
Native bee husbandry 	✗	✓	✗
Changes in native bee population (%) 	+50%	0%	-50%
Policy implementation costs (TIBB) 	500	500	0
I choose:	Policy A <input type="radio"/>	Policy B <input type="radio"/>	No Policy <input type="radio"/>

- land commitment to organic farming (acres) – 25%, 50%, 75%, 100%;
- organic crop price increase (per 100 Rupees) – 5, 7, 9, 11, 13, 15;
- cost of certification per acre (Rupees) – R1,000 as a group, R3,000 as an individual;
- compost price per trolley (Rupees) – R600, R900, R1,200, R1,500;
- labour days to compost one trolley – 4, 8, 12, 16.

Attributes	Description	Levels
Weed control technology	Method of weed control. All the practices proposed in the choice sets are currently employed in the area, even though some are not very widespread; for instance, manual and mechanical weeding	<ol style="list-style-type: none"> Intensive chemical weeding (three applications or more) Chemical weeding with one or two applications (PGI and CFR recommendations) Mechanical weeding Manual weed removal
Varietal choice	Rice cultivar characterised by different life cycle lengths (vegetative cycles). Three categories are found in the Camargue: early, semi-late and late (i.e. short, medium and long life cycles). Even though they show few differences in cycle length, this attribute represents an important issue insofar as it has consequences for production risk and the crop management schedule	<ol style="list-style-type: none"> Short cycle: 140–150 days Medium cycle: 150–160 days Long cycle: > 160 days
Crop rotation	Rice return time on the same plot. This is the number of years of rice growing. In the Camargue area, the main practice is intensive cereal rotation, as defined in Table 1, or sometimes single-crop rice farming in low salinity areas. In our survey, about 11.5% of the population practice long rotations.	<ol style="list-style-type: none"> Long rotation (one year of rice every five years) 'Cereal' rotation (two years of rice every five years) 'Intensive cereal' rotation (two or three consecutive years of rice)
Yield	Average wheat yield over a five-year period	<ol style="list-style-type: none"> Yield < 2 tons/ha 2 ≤ yield ≤ 5 tons/ha 5 ≤ yield ≤ 7 tons/ha Yield ≥ 7 tons/ha
Risk	Yield variability. Defined by the frequency of below-average yields	<ol style="list-style-type: none"> 0 year One year Three years
Single payment scheme	Financial support for rice production, similar to payment received under the CAP	<ol style="list-style-type: none"> 0 euros 400 euros/ha 700 euros/ha 1,000 euros/ha

Program administrating/funding institution



- Local administrating/governing agency (NGOs, government, farming network)
- Source of funding (industry, public-governmental, NGOs)
- Initiator of the contract (landowner, agricultural organization, environmental organization, conservation trust)

Pasture attribute	Pasture grazing program A	Pasture grazing program B	Opt-out
Program financing	Food industry scheme	Governmental subsidies	Unchanged management
Annual grazing period (d/yr)	120	150	
Daily grazing period (h/d)	6	8	
Feeding standards	Concentrated feed reduced by 20%	Amount of maize silage reduced by 30%	
Premium (€cent/kg)	3	5	
I choose:	O	O	O

Attributes	Levels			
	Level 1	Level 2	Level 3	Level 4
1. Land area to be committed	10% of your land	20% of your land	40% of your land	–
2. Length of commitment period	5 years	15 years	30 years	–
3. Right to harvest products (grass/fodder/beekeeping)	Permitted	Partially permitted	Not permitted	–
4. Reward scheme/incentive scheme	Waive annual water use cost per acre of land committed	Cover 50% of annual extension service fee per acre of land committed	Waive 50% of annual electricity cost per acre of land committed	Ksh. 4500 per acre of land committed per year
5. Local scheme administering agency	Water Resource Users Association (WRUA)	Focal Development Area Committee (FDAC)	Community Forest Association (CFA)	–
6. Required free labour contribution related to the contractual scheme per month	1 day	2 days	4 days	–

Goal of the programme

- By public good being provided

	Alternative A	Alternative B	Alternative C
Percentage of Farm	25%	100%	I prefer to maintain my current land use
Permitted Uses	No Permitted Uses	Agroforestry	
Environmental Benefit	 Forest Cover	 Water Quality	
Compensation ha / year	\$175	\$425	

Attribute	Description (name of corresponding variable)	Levels
Purpose of afforestation	Biodiversity implies that the afforested area mainly consists of broadleaved trees (biodiversity)	Biodiversity
	Ground water protection implies that the ground preparation is minimal and no pesticides/herbicides can be used (ground water)	Ground water protection
	Recreation implies that there has to be established walking paths and parking areas (recreation—reference)	Recreation
Option of cancelling the contract	The contract is either permanent or may be cancelled within 5 (Cancel 5) or 10 years (Cancel 10). If the contract is cancelled, the subsidy has to be paid back to the state (with a specified interest rate) and the landowner is then free to return the area to arable land	Option of cancelling within 10 years Option of cancelling within 5 years
	A permanent contract means that the area will be forest reserve in perpetuity (permanent—reference)	Permanent contract
Monitoring	A fraction of the landowners who accept a contract will receive a visit by the authorities in order to check landowners' commitment (monitoring, 0% is reference)	1% will be monitored 10% will be monitored 25% will be monitored
Compensation	The compensation is the amount of Euro the landowner receives as a one-time payment per ha (compensation)	€3,600–5,600 per ha (in steps of €400)

- Compensation for losses vs. maintenance

Attribute	Description	Levels	Coding
Purpose	Aim of the contract	Compensation of biodiversity loss	+1
		Conservation of biodiversity	-1
		Opt-out	0
Threshold	Existence of a minimum threshold of participation of 20% of farmers of the area	Yes	+1
		No	-1
		Opt-out	0
Payment	Payment level per ha and year	170€/ha	170
		200€/ha	200
		230€/ha	230
		260€/ha	260
		Opt-out	0
Alternative specific constant	Neither of the 2 contracts	Contract 1 or contract 2	1
		Opt-out	0

- Level 1 – Conservation (AES) contracts: they are proposed and funded by the **public sector** with the objective to **create or maintain** favorable habitats for threatened species
- Level 2 – Compensation (ABOS) contracts: they are proposed and paid by a **private developer**, compelled to **compensate** the degradation of favorable habitats for threatened species induced by its infrastructure project, by creating elsewhere on the territory equivalent favorable habitats.

Attribute	Levels					
1. Area size (%)	10	25	50			
2. Forest type	Commercial production forest		Non-commercial natural forest			
3. Availability of technical advice	Yes	No				
4. Public recreational access	Yes	No				
5. Return to farmland end of the contract	Yes	No				
6. Contract duration (years)	10	25	50			
7. Compensation (€/ha/year)	250	500	750	1000	1500	2000

Attributes	Levels					
1. Forest size (%)	5	10	25	50		
2. Forest type	Commercial forest			Non-commercial forest		
3. Technical advice	Yes	No				
4. Recreational access	Yes	No				
5. Return to agriculture at end of contract	Yes	No				
6. Contract length (years)	10	25	50			
7. Subsidy (€/ha/year)	500	750	1000	1500	2000	3000

Type of agreement

- Conservation Covenant
- Conservation management
- Sell: market value

Imagine that the government would like you to set aside two more 'patches' of land on your property for conservation purposes. This would change the configuration of your land

<p>From: </p> <p>where there is one small patch set aside for conservation</p>	<p>To: </p> <p>where there are several patches set aside for conservation</p>
<p>Would you choose to</p>	
<p>Accept a Conservation covenant, that would require you to pay for the survey costs, and then spend 1-2 days per month 'managing' the extra conservation areas</p>	<p>Payment (as a % of Total Costs) <input checked="" type="checkbox"/> Choice</p> <p>and receive compensation for 50% of all costs <input type="checkbox"/></p>
<p>Or</p>	
<p>Accept a Conservation management agreement, that would require you to purchase some extra supplies (e.g. fencing) and labour (to put the fences in) and that would require you to spend an extra 1-2 days per month 'managing' the areas</p>	<p>and receive compensation for 50% of all costs <input type="checkbox"/></p>
<p>Or</p>	
<p>Sell your entire property at market value</p>	<p>Market value <input type="checkbox"/></p>

Attribute	Attribute Levels
Tillage Practice	Conservation tillage No tillage (or no-till) Conventional tillage
Increase in Net Revenue	\$10/acre \$5/acre \$0/acre
Source of Carbon Payment	Cap-and-trade Market Government Program None
Multi-year Contract Requirement	Contract Required No Contract Required

- No contract required

- Over 80 studies looking at various issues around farmers' preferences for agri-environmental contracts
 - The number is growing fast
- Variety of approaches and issues studied

- Empirical:
 - Preferences for environmental contributions (intrinsic motives)
 - Effects of conditionality of direct payments
 - ‘Pushing out’ vs. ‘foot in the door’ effect for voluntary schemes?
 - Results-based schemes (outcomes, risk, monitoring)
 - Collective approaches (on-farm continuity, agglomeration, thresholds)
 - Funding and monitoring authority effects
 - Locally-tailored vs. generic schemes
 - Many other
- Methodological
 - Consequentiality and incentive compatibility
 - Discrete-continuous decisions

- Review paper on available evidence
 - Similar paper recently published on experimental approaches
- Inputs from the Labs
 - What attributes are spontaneously mentioned as the most relevant, research-worthy
 - How are all out attributes perceived / ranked in terms of importance
 - How are the proposed attributes / treatments perceived
 - Qualitative pretesting of the survey instrument
 - Administering the survey to various stake-holders

Thank you!

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