

# Strengthening climate change adaptation: Are farmers willing to pay for related agricultural extension services?

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## BACKGROUND

- × Adaptation can greatly reduce vulnerability to climate change (IPCC, 2001).
- × Extension institutions are expected to provide additional climate related information to raise farmers' awareness.
- × Are farmers' willing to pay for agricultural extension services related to climate change?

## STUDY ZONE



Northern Benin  
4 Agro-ecological zones  
4 Municipalities  
8 villages  
336 respondents



## METHODS

$$\begin{bmatrix} WTP_{11} \\ WTP_{12} \end{bmatrix} = \begin{bmatrix} \delta_{01} \\ \delta_{02} \end{bmatrix} + \begin{bmatrix} Z_{11} & 0 \\ 0 & Z_{12} \end{bmatrix} \cdot \begin{bmatrix} \delta_1 \\ \delta_2 \end{bmatrix} + \begin{bmatrix} e_{11} \\ e_{12} \end{bmatrix} \quad [1]$$

$WTP_1$  = Willingness to pay for predictions of climate change  
 $WTP_2$  = Willingness to pay for documented adaptation strategies  
 $Z$  = socio-economic and demographic characteristics  
 $\delta$  are parameters to be estimated

Estimation method: Seemingly Unrelated Regression model

## RESULTS

Variables	WTP for climate change predictions		WTP for documented adaptation strategies	
	Coefficient (std. err.)	P>z	Coefficient (std. err.)	P>z
Age	-0.001 (0.010)	0.984	0.002 (0.010)	0.893
Gender	0.668** (0.293)	0.023	0.650** (0.296)	0.028
Level of education	0.031 (0.019)	0.114	-0.036* (0.019)	0.068
Highest education level	-0.002 (0.019)	0.909	0.005 (0.017)	0.770
Side activity	-0.006 (0.158)	0.969	-0.052 (0.159)	0.743
Experience in agriculture	-0.005 (0.010)	0.598	-0.004 (0.010)	0.632
Access to credit	0.013 (0.182)	0.943	0.039 (0.183)	0.832
Organization membership	0.401** (0.195)	0.040	0.561*** (0.197)	0.004
Contact with extension service	-0.486*** (0.180)	0.007	-0.608*** (0.182)	0.001
Farm size	0.022*** (0.006)	0.001	0.026*** (0.006)	0.000
Constant	-6.646*** (0.414)	0.000	6.893*** (0.418)	0.000
<i>Goodness of fit (summary)</i>				
Observations	309		309	
Parameters	10		10	
R-square	0.09		0.13	
Chi2	31.67***		45.43***	
Probability	0.0005		0.0000	

The values in bracket are the standard-errors; \*, \*\*, \*\*\* significant at 10%, 5%, and 1%, respectively.

## LESSONS

- × 91% of the respondents were willing to be informed about both climate change predictions and documented adaptation strategies.
- × Farmers are willing to pay more for documented adaptation strategies (fcfa 9147.62) than for learning about climate change predictions (fcfa 5573.59).
- × Organization membership and farm size are key drivers of farmers' WTP for climate change information.

## ACKNOWLEDGEMENTS

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## REFERENCE

Intergovernmental Panel on Climate Change (IPCC), 2001. Climate change 2001: impacts, adaptation and vulnerability. Contribution of Working Group II to the Third Assessment Report of the IPCC.

