Behavioural Factors Matter for the Adoption of Climate-Smart Agriculture

Supplementary Tables

Table of Contents

1	Descriptive statistics	4
2	Main regression tables	6
	2.1 Semi-parametric estimations of aspiration failure	12
	2.2 Cameroon	13
	2.3 Kenya	14
3	Cross country heterogeneity	15
4	MVP of the relationship between aspirations, aspiration failures and CSA practices \dots	20
5	Robustness Checks	25

List of Tables

S1	Descriptive statistics by country	4
S2	Full OLS estimates of the relationship between aspirations and CSA practices	6
S3	Full OLS estimates of the relationship between aspirations failure and adoption of CSA	
	practices	8
S4	U-shaped tests of aspiration failure	11
S 5	Full OLS estimates of the relationship between aspirations and CSA practices by country .	16
S6	Full OLS estimates of the relationship between aspirations failure and CSA practices by	
	country	18
S 7	MVP of the relationship between aspirations and CSA practices	21
S 8	MVP of the relationship between aspiration failure and CSA practices	23
S9	Full Poisson and Ordered probit estimates of the relationship between aspiration and CSA	
	practices	26
S10	Full Poisson and Ordered probit estimates of the relationship between aspiration filure and	
	CSA practices	28

1 Descriptive statistics

Table S1: Descriptive statistics by country

Characteristic	Cameroon, N = 582	Kenya , N = 530	p-value
Crop rotation (1/0)	403 (69%)	223 (42%)	< 0.001
Intercropping (1/0)	380 (65%)	220 (42%)	< 0.001
Fallowing (1/0)	355 (61%)	90 (17%)	< 0.001
Organic soil amendments (1/0)	207 (36%)	133 (25%)	< 0.001
Number of CSA adopted			< 0.001
0	32 (5.5%)	139 (26%)	
1	135 (23%)	202 (38%)	
2	113 (19%)	117 (22%)	
3	224 (38%)	58 (11%)	
4	78 (13%)	14 (2.6%)	
Aspirations	13.54 (1.65)	10.95 (0.95)	< 0.001
Aspiration gap (0-1)	0.76 (0.22)	0.69 (0.19)	< 0.001
Gap squared (0-1)	0.63 (0.27)	0.52(0.24)	< 0.001
Income (IHS)	11.74 (1.00)	9.48 (1.25)	< 0.001
Off-farm activity (1/0)	169 (29%)	144 (27%)	0.5
Household size (num)	5.0 (4.2)	5.9 (2.8)	< 0.001
Credit access (1/0)	108 (19%)	228 (43%)	< 0.001
Age of head (years)	50 (15)	45 (16)	< 0.001
Education level			< 0.001
No formal education	24 (4.1%)	98 (18%)	
Primary Education	253 (43%)	172 (32%)	
Secondary Education	275 (47%)	234 (44%)	
University Education	30 (5.2%)	26 (4.9%)	
Cooperative membership (1/0)	109 (19%)	133 (25%)	0.010
Extension access (1/0)	110 (19%)	139 (26%)	0.003
Gender of head			0.8
Female	155 (27%)	137 (26%)	
Male	427 (73%)	393 (74%)	
Asset index	0.01 (1.71)	0.00 (1.85)	0.8
¹ n (%); Mean (SD)			
² Pearson's Chi-squared test; Wi	ilcoxon rank sum test		

Note: The table above presents summary statistics of some of the regression variables by country. Two-sided t-tests were used for statistical testing, and the corresponding p-values are presented in the last column. The tests performed are Pearsons Chi-squared test for categorical variables and the Wilcoxon rank sum test for continuous variables.

2 Main regression tables

Table S2: Full OLS estimates of the relationship between aspirations and CSA practices

variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)
Aspirations	0.024**	-0.021	0.005	0.029**
_	(0.010)	(0.014)	(0.009)	(0.012)
	[0.019]	[0.133]	[0.605]	[0.022]
Off-farm activity (10)	0.036	-0.048	0.026	-0.032
	(0.037)	(0.039)	(0.032)	(0.032)
	[0.338]	[0.225]	[0.420]	[0.317]
Household size (num)	0.006	0.004	0.001	0.001
	(0.004)	(0.005)	(0.004)	(0.004)
	[0.155]	[0.346]	[0.699]	[0.773]
Credit access (10)	0.119***	0.060*	0.031	0.009
	(0.036)	(0.031)	(0.031)	(0.036)
	[0.001]	[0.061]	[0.314]	[0.798]
Age of head (years)	0.000	0.000	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.807]	[0.879]	[0.601]	[0.189]
Educational level (years)	-0.002	0.001	-0.006*	-0.006
	(0.004)	(0.005)	(0.003)	(0.004)
	[0.654]	[0.904]	[0.071]	[0.153]
Cooperative membership (10)	0.039	0.028	0.041	0.019
	(0.037)	(0.036)	(0.033)	(0.035)
	[0.292]	[0.436]	[0.217]	[0.584]
Extension access (10)	0.085**	0.071*	-0.005	0.046
	(0.041)	(0.040)	(0.033)	(0.031)
	[0.043]	[0.077]	[0.877]	[0.139]
Head is male (10)	0.009	0.025	-0.014	0.001
	(0.031)	(0.039)	(0.028)	(0.030)
	[0.780]	[0.523]	[0.616]	[0.974]
Asset index	0.035***	-0.012	0.038***	0.034***
	(0.012)	(0.017)	(0.011)	(0.013)
	[0.006]	[0.489]	[0.001]	[0.008]
Observations	1,112	1,112	1,112	1,112
R-squared	0.342	0.239	0.388	0.226
Ftest	5.748	1.653	2.606	3.905

Note: The table presents the results of OLS regressions between aspirations and CSA practices, with robust standard errors, where the standard errors are clustered. The statistical tests conducted are two-sided t-tests. P-values are denoted in square brackets. The presence of an asterisk (*) above a coefficient indicates that the coefficient is statistically different from zero at a predetermined level of significance (*** p<0.01, ** p<0.05, * p<0.1)

Table S3: Full OLS estimates of the relationship between aspirations failure and adoption of CSA practices

variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)
Aspiration gap (0-1)	0.569**	1.218***	0.631**	0.419
	(0.271)	(0.325)	(0.250)	(0.266)
	[0.040]	[0.000]	[0.014]	[0.120]
Gap squared (0-1)	-0.456*	-1.208***	-0.530**	-0.291
	(0.244)	(0.294)	(0.212)	(0.227)
	[0.065]	[0.000]	[0.015]	[0.204]
Off-farm activity (10)	0.036	-0.064*	0.024	-0.029
	(0.038)	(0.038)	(0.033)	(0.032)
	[0.352]	[0.097]	[0.480]	[0.363]
Household size (num)	0.006	0.004	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.004)
	[0.130]	[0.308]	[0.659]	[0.715]
Credit access (10)	0.117***	0.057*	0.030	0.007
	(0.036)	(0.032)	(0.031)	(0.036)
	[0.002]	[0.083]	[0.338]	[0.843]
Age of head (years)	0.000	0.000	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.947]	[0.990]	[0.550]	[0.153]
Educational level (years)	-0.001	-0.001	-0.006*	-0.005
	(0.004)	(0.005)	(0.003)	(0.004)
	[0.789]	[0.840]	[0.071]	[0.223]
Cooperative membership (10)	0.035	0.009	0.036	0.018
	(0.037)	(0.035)	(0.031)	(0.035)
	[0.348]	[0.804]	[0.254]	[0.596]
Extension access (10)	0.086**	0.078*	-0.004	0.045
	(0.041)	(0.040)	(0.033)	(0.031)
	[0.041]	[0.053]	[0.893]	[0.142]
Head is male (10)	0.008	0.012	-0.018	0.002
	(0.031)	(0.039)	(0.028)	(0.030)
	[0.802]	[0.754]	[0.532]	[0.943]
Asset index	0.039***	-0.016	0.039***	0.039***
	(0.012)	(0.016)	(0.011)	(0.012)
	[0.002]	[0.334]	[0.001]	[0.002]
Observations	1,112	1,112	1,112	1,112
R-squared	0.341	0.262	0.392	0.222
F test	6.342	3.600	2.849	3.614

Note: The table presents the results of OLS regressions between aspirations failure and CSA practices. Robust standard errors are in brackates. The statistical tests conducted are two-sided t-tests. P-values, denoted in square brackets. The presence of an asterisk (*) above a coefficient indicates that the coefficient is statistically different from zero at a predetermined level of significance (*** p<0.01, ** p<0.05, * p<0.1).

[%] Please add the following required packages to your document preamble:

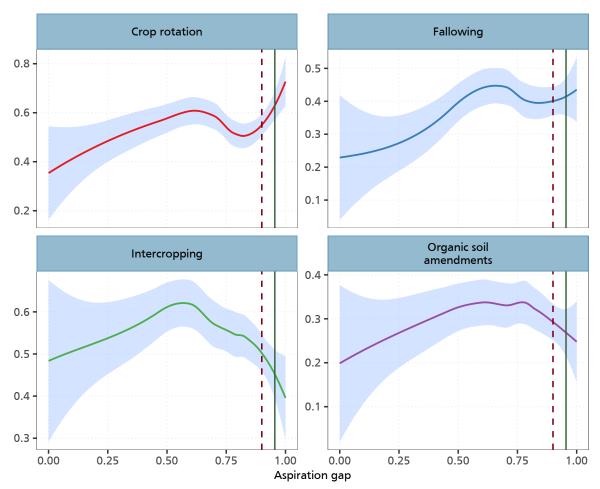
[%] Note: It may be necessary to compile the document several times to get a multi-page table to line up properly

Table S4: U-shaped tests of aspiration failure

	Crop rotation	Intercropping	Fallowing	OSA
	[A] Poo	led		
Turning point	0.623	0.504	0.595	0.718
Sasabuchi p-value	0.071	< 0.001	0.016	0.215
Slope at minimum	0.568	1.218	0.631	0.418
Slope at maximum	-0.344	-1.196	-0.428	-0.163
Fieller 95% confidence interval	[-Inf; +Inf]	[0.419; 0.569]	[0.427; 0.86]	[-Inf; +Inf]
	[B] Came	roon		
Turning point	0.515	0.494	0.507	0.604
Sasabuchi p-value	0.067	0.002	0.019	0.169
Slope at minimum	0.509	1.126	0.676	0.363
Slope at maximum	-0.478	-1.149	-0.656	-0.238
Fieller 95% confidence interval	[-Inf; +Inf]	[0.356; 0.577]	[0.21; 0.834]	[-Inf; +Inf]
	[C] Ker	ıya		
Turning point	0.7	0.555	0.803	0.696
Sasabuchi p-value	0.142	0.054	0.267	0.229
Slope at minimum	0.916	0.897	0.555	0.717
Slope at maximum	-0.392	-0.716	-0.136	-0.312
Fieller 95% confidence interval	[-Inf; +Inf]	[-Inf; +Inf]	[-Inf; +Inf]	[-Inf; +Inf]

2.1 Semi-parametric estimations of aspiration failure

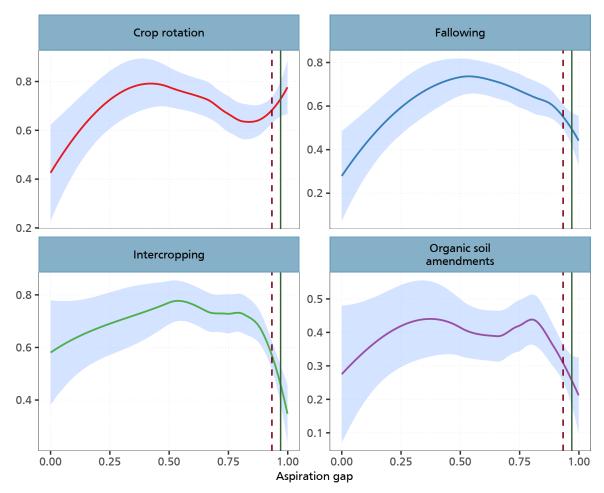
Figure S1: Loess smoothed relationship between Practice and Gap for each level of CSA



Note: The graph illustrates the relationship between the CSA and Aspiration Gap, stratified by the four different practices. The solid line on each plot depicts a Loess smoothed relationship between aspiration gap and practices. Loess smoothing is a nonparametric method that uses local weighted regression to fit a smooth curve through points in a scatter plot. This line represents the trend of CSA adoption as aspiration gap changes. The shaded region around the Loess line represents 95% Confidence intervals. The red dashed line indicates the 75th percentile, and the green line represents the 90th percentile of the aspiration gap. This figure is derived from a locally weighted regression analysis with a span (alpha) of 0.8 and a polynomial degree of 0.

2.2 Cameroon

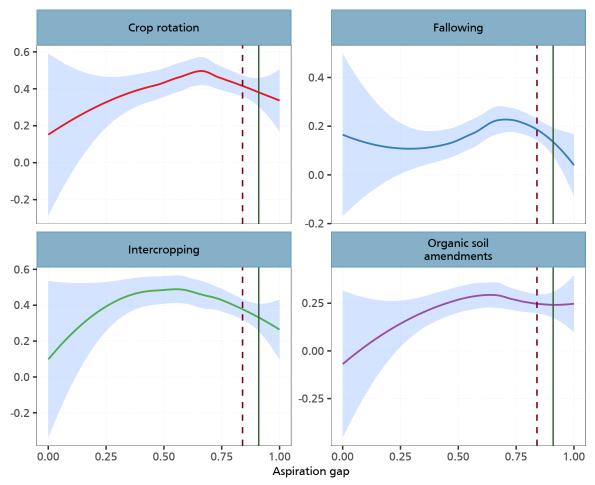
Figure S2: Loess smoothed relationship between Practice and Gap for each level of CSA (Cameroon)



Note: The graph illustrates the relationship between the variable CSA and Aspiration Gap, stratified by the four different practices for Cameroon. The solid line on each plot depicts a Loess smoothed relationship between aspiration gap and CSA practices. Loess smoothing is a nonparametric method that uses local weighted regression to fit a smooth curve through points in a scatter plot. This line represents the trend of CSA adoption as aspiration gap changes. The shaded region around the Loess line represents 95% Confidence intervals. The red dashed line indicates the 75th percentile, and the green line represents the 90th percentile of the aspiration gap. This figure is derived from a locally weighted regression analysis with a span (alpha) of 0.8 and a polynomial degree of 0.

2.3 Kenya

Figure S3: Loess smoothed relationship between Practice and Gap for each level of CSA (Kenya)



Note: The graph illustrates the relationship between the variable CSA and Aspiration Gap, stratified by the four different practices for Kenya. The solid line on each plot depicts a Loess smoothed relationship between aspiration gap and CSA practices. Loess smoothing is a nonparametric method that uses local weighted regression to fit a smooth curve through points in a scatter plot. This line represents the trend of CSA adoption as aspiration gap changes. The shaded region around the Loess line represents 95% Confidence intervals. The red dashed line indicates the 75th percentile, and the green line represents the 90th percentile of the aspiration gap. This figure is derived from a locally weighted regression analysis with a span (alpha) of 0.8 and a polynomial degree of 0.

3 Cross country heterogeneity

12

Table S5: Full OLS estimates of the relationship between aspirations and CSA practices by country

		(Cameroon		Kenya			
variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)
Aspirations	0.024**	-0.019	0.007	0.022*	0.021	-0.007	-0.001	0.045
	(0.010)	(0.016)	(0.009)	(0.012)	(0.034)	(0.038)	(0.023)	(0.035)
	[0.024]	[0.241]	[0.457]	[0.081]	[0.535]	[0.856]	[0.981]	[0.207]
Off-farm activity (10)	0.025	-0.068	-0.027	-0.044	0.059	-0.024	0.094**	0.002
	(0.057)	(0.055)	(0.045)	(0.044)	(0.048)	(0.051)	(0.045)	(0.047)
	[0.661]	[0.226]	[0.549]	[0.324]	[0.231]	[0.645]	[0.045]	[0.969]
Household size (num)	0.003	-0.001	0.002	0.001	0.013	0.011	0.001	0.002
	(0.004)	(0.004)	(0.004)	(0.005)	(0.008)	(0.009)	(0.007)	(0.008)
	[0.508]	[0.878]	[0.678]	[0.852]	[0.138]	[0.245]	[0.913]	[0.838]
Credit access (10)	0.122**	0.032	0.121**	0.016	0.120**	0.078*	-0.019	0.014
	(0.057)	(0.040)	(0.053)	(0.064)	(0.049)	(0.043)	(0.032)	(0.042)
	[0.038]	[0.428]	[0.030]	[0.798]	[0.020]	[0.081]	[0.554]	[0.730]
Age of head (years)	-0.000	-0.002	-0.002	-0.003	0.001	0.002	0.000	0.000
	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
	[0.797]	[0.147]	[0.159]	[0.120]	[0.580]	[0.339]	[0.779]	[0.943]
Educational level (years)	0.000	0.004	0.003	-0.007	-0.003	-0.006	-0.010**	-0.003
	(0.005)	(0.007)	(0.005)	(0.006)	(0.007)	(0.006)	(0.005)	(0.005)
	[0.986]	[0.602]	[0.591]	[0.236]	[0.649]	[0.316]	[0.040]	[0.472]
Cooperative membership (10)	0.009	0.042	0.068	0.090*	0.085	-0.015	0.027	-0.034
	(0.049)	(0.040)	(0.050)	(0.050)	(0.057)	(0.058)	(0.042)	(0.051)
	[0.852]	[0.299]	[0.185]	[0.082]	[0.149]	[0.803]	[0.518]	[0.507]
Extension access (10)	-0.005	0.041	-0.068	-0.057	0.161***	0.114**	0.044	0.118***
	(0.060)	(0.059)	(0.049)	(0.042)	(0.059)	(0.048)	(0.046)	(0.036)
	[0.931]	[0.487]	[0.180]	[0.184]	[0.010]	[0.024]	[0.340]	[0.002]
Head is male (10)	-0.001	-0.031	-0.039	-0.050	0.031	0.030	0.032	0.087*
	(0.042)	(0.055)	(0.034)	(0.037)	(0.045)	(0.052)	(0.043)	(0.045)
	[0.980]	[0.571]	[0.260]	[0.186]	[0.491]	[0.573]	[0.465]	[0.059]
Asset index	0.043**	-0.083***	0.045**	0.060***	0.022	0.044**	0.033**	0.005
	(0.018)	(0.022)	(0.018)	(0.021)	(0.017)	(0.018)	(0.015)	(0.016)
	[0.026]	[0.001]	[0.018]	[0.006]	[0.194]	[0.020]	[0.035]	[0.776]
Observations	582	582	582	582	530	530	530	530
R-squared	0.311	0.189	0.315	0.323	0.282	0.307	0.125	0.114
Additional controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Village FE	No	No	No	No	Yes	Yes	Yes	Yes
F test	2.215	4.160	2.803	2.433	7.010	4.657	2.372	3.224

Note: The table presents the results of OLS regressions between aspirations failure and CSA practices by country. Robust standard errors are in brackates. The statistical tests conducted are two-sided t-tests. P-values is denoted in square brackets. The presence of an asterisk (*) above a coefficient indicates that the coefficient is statistically different from zero at a predetermined level of significance (*** p<0.01, ** p<0.05, * p<0.1). All regressions include a comprehensive set of village fixed effects to control for potential unobserved heterogeneity.

13

Table S6: Full OLS estimates of the relationship between aspirations failure and CSA practices by country

	Cameroon						Kenya	
variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)
Aspiration gap (0-1)	0.510	1.127***	0.677**	0.364	0.916*	0.897	0.555	0.717
	(0.304)	(0.375)	(0.311)	(0.288)	(0.529)	(0.544)	(0.431)	(0.565)
	[0.102]	[0.005]	[0.037]	[0.214]	[0.092]	[0.108]	[0.206]	[0.213]
Gap squared (0-1)	-0.494	-1.138***	-0.667**	-0.301	-0.654	-0.807*	-0.346	-0.515
	(0.295)	(0.333)	(0.296)	(0.252)	(0.437)	(0.454)	(0.310)	(0.480)
	[0.103]	[0.002]	[0.031]	[0.240]	[0.143]	[0.084]	[0.272]	[0.291]
Off-farm activity (10)	0.028	-0.071	-0.026	-0.042	0.067	-0.035	0.106**	0.006
	(0.057)	(0.054)	(0.047)	(0.044)	(0.048)	(0.049)	(0.049)	(0.048)
	[0.621]	[0.195]	[0.579]	[0.347]	[0.178]	[0.486]	[0.037]	[0.903]
Household size (num)	0.003	0.000	0.002	0.001	0.013	0.010	0.001	0.002
	(0.004)	(0.004)	(0.004)	(0.005)	(0.008)	(0.009)	(0.007)	(0.008)
	[0.421]	[0.966]	[0.587]	[0.799]	[0.124]	[0.264]	[0.842]	[0.821]
Credit access (10)	0.119**	0.030	0.118**	0.013	0.118**	0.077*	-0.019	0.012
	(0.056)	(0.039)	(0.053)	(0.065)	(0.050)	(0.044)	(0.031)	(0.043)
	[0.041]	[0.460]	[0.035]	[0.838]	[0.023]	[0.093]	[0.542]	[0.789]
Age of head (years)	-0.001	-0.002	-0.002	-0.003	0.001	0.002	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
	[0.702]	[0.128]	[0.123]	[0.106]	[0.527]	[0.373]	[0.652]	[0.973]
Educational level (years)	-0.001	0.002	0.001	-0.008	-0.001	-0.006	-0.010**	-0.000
	(0.005)	(0.007)	(0.005)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)
	[0.913]	[0.830]	[0.766]	[0.211]	[0.860]	[0.325]	[0.046]	[0.939]
Cooperative membership (10)	-0.001	0.013	0.052	0.086*	0.085	-0.016	0.029	-0.036
	(0.049)	(0.040)	(0.046)	(0.050)	(0.059)	(0.057)	(0.041)	(0.052)
	[0.989]	[0.750]	[0.260]	[0.091]	[0.158]	[0.778]	[0.478]	[0.494]
Extension access (10)	-0.012	0.037	-0.073	-0.061	0.159**	0.119**	0.037	0.123***
	(0.060)	(0.057)	(0.050)	(0.043)	(0.059)	(0.050)	(0.043)	(0.036)
	[0.846]	[0.524]	[0.152]	[0.162]	[0.011]	[0.022]	[0.396]	[0.002]
Head is male (10)	0.004	-0.036	-0.038	-0.045	0.023	0.019	0.027	0.082*
	(0.043)	(0.055)	(0.035)	(0.036)	(0.045)	(0.052)	(0.041)	(0.045)
	[0.935]	[0.518]	[0.280]	[0.217]	[0.611]	[0.717]	[0.510]	[0.081]
Asset index	0.051***	-0.078***	0.051***	0.066***	0.024	0.039**	0.033**	0.011
	(0.018)	(0.020)	(0.018)	(0.020)	(0.016)	(0.017)	(0.014)	(0.016)
	[0.007]	[0.000]	[0.009]	[0.002]	[0.142]	[0.029]	[0.030]	[0.506]
Observations	582	582	582	582	530	530	530	530
R-squared	0.311	0.216	0.324	0.320	0.286	0.313	0.130	0.112
F test	2.570	4.618	3.005	2.023	6.858	5.829	2.632	3.818

Note: The table presents the results of OLS regressions between aspirations failure and CSA practices by country. Robust standard errors are in brackates. The statistical tests conducted are two-sided t-tests. P-values is denoted in square brackets. The presence of an asterisk (*) above a coefficient indicates that the coefficient is statistically different from zero at a predetermined level of significance (*** p<0.01, ** p<0.05, * p<0.1). All regressions include a comprehensive set of district fixed effects to control for potential unobserved heterogeneity.

4	MVP of the relationship between aspirations, aspiration failures and CSA practices						

Table S7: MVP of the relationship between aspirations and CSA practices

variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0)
Aspirations	0.216***	-0.0594	0.0462	0.125***
	(0.0370)	(0.0421)	(0.0302)	(0.0470
Off-farm activity (10)	-0.0803	-0.155	0.0792	-0.140
	(0.103)	(0.117)	(0.126)	(0.111
Household size (num)	0.0135	0.0151	0.00975	0.00650
	(0.0139)	(0.0137)	(0.0145)	(0.0142
Credit access (10)	0.224**	0.209**	0.0750	0.00038
	(0.0997)	(0.0986)	(0.115)	(0.114
Age of head (years)	0.00227	0.000528	-0.000785	-0.00568
	(0.00301)	(0.00399)	(0.00396)	(0.00440
Educational level (years)	-0.0129	0.00122	-0.0274*	-0.0179
•	(0.0119)	(0.0143)	(0.0145)	(0.0136
Cooperative membership (10)	0.264**	0.0867	0.227*	0.0815
	(0.105)	(0.112)	(0.126)	(0.112
Extension access (10)	0.284**	0.228*	-0.0331	0.148
	(0.119)	(0.121)	(0.126)	(0.0988
Head is male (10)	0.0140	0.0871	-0.0357	0.0258
	(0.0823)	(0.117)	(0.110)	(0.115
Asset index	0.0826**	-0.0349	0.163***	0.106***
	(0.0324)	(0.0481)	(0.0429)	(0.0389
Constant	-2.734***	0.962	-0.266	-1.510**
	(0.511)	(0.695)	(0.547)	(0.701
Observations	1,112	1,112	1,112	1,112
Additional controls	Yes	Yes	Yes	Yes
Village FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
_	Coefficent	Std. Err.		
atanhrho-12	-0.0102	(0.0785)		
atanhrho-13	0.491***	(0.0989)		
atanhrho-14	0.324***	(0.0855)		
atanhrho-23	0.186*	(0.0996)		
atanhrho-24	0.217**	(0.0844)		
atanhrho-34	0.173*	(0.0929)		
Robust standard errors in parenther *** p<0.01, ** p<0.05, * p<0.1	ses			

Note: This table displays the findings of Multivariate Probit (MVP) regressions, applied to investigate the relationship between aspiration and the adoption of Climate-Smart Agriculture (CSA) practices. Robust standard errors are reported in brackets to control for potential heteroscedasticity. Two-sided t-tests were conducted for the statistical tests, and corresponding p-values are noted within square brackets. Coefficients denoted with an asterisk () represent statistical significance at pre-established levels (** p<0.01, ** p<0.05, * p<0.1). To account for potential unobserved heterogeneity, all regressions incorporate a comprehensive set of village fixed effects.

Table S8: MVP of the relationship between aspiration failure and CSA practices

variables	Crop rotation (1/0)	Intercropping (1/0)	Fallowing (1/0)	Organic soil amendments (1/0
Aspiration gap (0-1)	0.373	3.829***	1.783**	1.429
	(0.879)	(0.972)	(0.903)	(1.040
Gap squared (0-1)	0.125	-3.805***	-1.413*	-0.91
	(0.776)	(0.887)	(0.747)	(0.850
Off-farm activity (10)	-0.0336	-0.210*	0.0802	-0.12
	(0.103)	(0.118)	(0.128)	(0.110
Household size (num)	0.00890	0.0163	0.00903	0.0068
	(0.0125)	(0.0130)	(0.0146)	(0.0138
Credit access (10)	0.0707	0.216**	0.0350	-0.034
	(0.105)	(0.105)	(0.114)	(0.114
Age of head (years)	0.00438	0.000192	-0.000128	-0.0054
	(0.00308)	(0.00398)	(0.00393)	(0.00427
Educational level (years)	0.0160	-0.00313	-0.0207	-0.0097
	(0.0114)	(0.0148)	(0.0141)	(0.0131
Cooperative membership (10)	0.289***	0.0240	0.212*	0.085
	(0.107)	(0.112)	(0.122)	(0.110
Extension access (10)	0.240**	0.256**	-0.0394	0.13
	(0.118)	(0.123)	(0.125)	(0.0960
Head is male (10)	0.0292	0.0462	-0.0454	0.035
	(0.0878)	(0.122)	(0.111)	(0.113
Asset index	0.110***	-0.0445	0.168***	0.125**
	(0.0305)	(0.0449)	(0.0417)	(0.0369
Constant	-0.732**	-0.410	-0.305	-0.50
	(0.348)	(0.406)	(0.436)	(0.486
Observations	1,112	1,112	1,112	1,11
Additional controls	Yes	Yes	Yes	Ye
Village FE	Yes	Yes	Yes	Ye
Year FE	Yes	Yes	Yes	Ye
_	Coefficent	Std. Err.		
atanhrho-12	-0.0154	(0.0822)		
atanhrho-13	0.487***	(0.0988)		
atanhrho-14	0.330***	(0.0871)		
atanhrho-23	0.173*	(0.101)		
atanhrho-24	0.209**	(0.0852)		
atanhrho-34	0.170*	(0.0924)		

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Note: The table displays the findings of Multivariate Probit (MVP) regressions, applied to investigate the relationship between aspiration failure and the adoption of Climate-Smart Agriculture (CSA) practices. Robust standard errors are reported in brackets to control for potential heteroscedasticity. Two-sided t-tests were conducted for the statistical tests, and corresponding p-values are noted within square brackets. Coefficients denoted with an asterisk () represent statistical significance at pre-established levels (** p<0.01, ** p<0.05, * p<0.1). To account for potential unobserved heterogeneity, all regressions incorporate a comprehensive set of village fixed effects.

5 Robustness Checks

Table S9: Full Poisson and Ordered probit estimates of the relationship between aspiration and CSA practices

	POISSON			ORDERED PROBIT		
variable	(1)	(2)	(3)	(1)	(2)	(3)
Aspirations	0.131***	0.124***	0.021	0.210***	0.202***	0.039
•	(0.019)	(0.018)	(0.014)	(0.031)	(0.030)	(0.028)
	[0.000]	[0.000]	[0.141]	[0.000]	[0.000]	[0.164]
Off-farm activity		-0.024	-0.013		-0.025	0.010
·		(0.040)	(0.042)		(0.067)	(0.084)
		[0.557]	[0.756]		[0.709]	[0.906]
Household size		0.005	0.007		0.008	0.017
		(0.005)	(0.005)		(0.010)	(0.012)
		[0.381]	[0.174]		[0.418]	[0.143]
Credit access		0.024	0.128***		0.031	0.254***
		(0.045)	(0.044)		(0.075)	(0.085)
		[0.599]	[0.003]		[0.680]	[0.003]
Age of head		0.005***	-0.001		0.009***	-0.002
		(0.002)	(0.002)		(0.003)	(0.003)
		[0.003]	[0.606]		[0.002]	[0.548]
Educational level		0.002	-0.005		0.005	-0.012
		(0.006)	(0.006)		(0.011)	(0.012)
		[0.723]	[0.404]		[0.636]	[0.319]
Cooperative membership		0.035	0.074**		0.056	0.155**
		(0.042)	(0.038)		(0.074)	(0.077)
		[0.409]	[0.048]		[0.452]	[0.044]
Extension access		0.083*	0.106**		0.131	0.201**
		(0.048)	(0.051)		(0.084)	(0.102)
		[0.081]	[0.040]		[0.119]	[0.049]
Head is male		-0.006	0.017		-0.029	0.016
		(0.048)	(0.040)		(0.082)	(0.077)
		[0.895]	[0.671]		[0.720]	[0.833]
Asset index		0.047***	0.051***		0.097***	0.108***
		(0.014)	(0.017)		(0.026)	(0.036)
		[0.001]	[0.003]		[0.000]	[0.002]
Observations	1,112	1,112	1,112	1,112	1,112	1,112
Additional controls	No	Yes	Yes	No	Yes	Yes
Village FE	No	No	Yes	No	No	Yes

Note: The table provides the findings from Full Poisson and Ordered probit estimations, carried out to explore the association between aspiration and Climate-Smart Agriculture (CSA) practices. The Full Poisson model was utilized to handle count outcomes while the Ordered probit model was used for ordinal outcomes. Robust standard errors, stated within brackets, were utilized to mitigate the impact of heteroscedasticity. Statistical tests were performed using two-sided t-tests, and the corresponding p-values are displayed within square brackets. Coefficients designated with an asterisk () indicate statistical significance at preset significance thresholds (** p<0.01, ** p<0.05, * p<0.1).

Table S10: Full Poisson and Ordered probit estimates of the relationship between aspiration filure and CSA practices

	POISSON	ORDERED PROBIT
variables	(1)	(2)
Aspiration gap (0-1)	1.729***	3.251***
	(0.461)	(0.774)
	[0.000]	[0.000]
Gap squared (0-1)	-1.493***	-2.873***
	(0.364)	(0.664)
	[0.000]	[0.000]
Off-farm activity (10)	-0.017	-0.010
	(0.042)	(0.086)
	[0.677]	[0.909]
Household size (num)	0.007	0.018
	(0.005)	(0.012)
	[0.129]	[0.116]
Credit access (10)	0.123***	0.247***
	(0.044)	(0.089)
	[0.005]	[0.005]
Age of head (years)	-0.001	-0.003
	(0.002)	(0.003)
	[0.505]	[0.420]
Educational level (years)	-0.006	-0.012
	(0.006)	(0.013)
	[0.351]	[0.325]
Cooperative membership (10)	0.055	0.121
	(0.036)	(0.074)
	[0.123]	[0.103]
Extension access (10)	0.107**	0.214**
	(0.052)	(0.105)
	[0.041]	[0.041]
Head is male (10)	0.010	-0.001
	(0.039)	(0.077)
	[0.804]	[0.984]
Asset index	0.057***	0.116***
	(0.016)	(0.033)
	[0.000]	[0.000]
Observations	1,112	1,112
Additional controls	Yes	Yes

Village FE Yes Yes

Note: The table provides the findings from Full Poisson and Ordered probit estimations, carried out to explore the association between aspiration failure and Climate-Smart Agriculture (CSA) practices. The Full Poisson model was utilized to handle count outcomes while the Ordered probit model was used for ordinal outcomes. Robust standard errors, stated within brackets, were utilized to mitigate the impact of heteroscedasticity. Statistical tests were performed using two-sided t-tests, and the corresponding p-values are displayed within square brackets. Coefficients designated with an asterisk () indicate statistical significance at preset significance thresholds (** p<0.01, ** p<0.05, * p<0.1).