

## 1 Regression Results

### 1.1 Stunting and Temperature<sub>t-1</sub>

Table 1: Logit Regressions (Coefficients) - Temperature<sub>t-1</sub> and Stunting

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Temperature <sub>t-1</sub> (°C)	0.237 (0.245)	0.144 (0.241)	0.268 (0.243)	1.077*** (0.352)	1.045*** (0.358)	1.107*** (0.348)	1.288*** (0.412)
Distance to Closest Water Source (km)				0.006 (0.015)	0.006 (0.015)	0.005 (0.015)	0.005 (0.017)
Distance to Closest Market (km)				-0.001 (0.019)	-0.001 (0.019)	-0.002 (0.018)	0.010 (0.025)
Distance to Closest City (km)				-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)	-0.001 (0.006)
Is there a Market in the Community?				-0.155 (0.166)	-0.184 (0.167)	-0.148 (0.166)	-0.120 (0.185)
Number of People in Household				-0.063 (0.046)	-0.064 (0.046)	-0.062 (0.046)	-0.078 (0.055)
Number of Meals to Children				0.082* (0.043)	0.083* (0.044)	0.081* (0.043)	0.121** (0.055)
Restricted Meals so Children can Eat				0.015 (0.065)	0.017 (0.065)	0.012 (0.065)	0.012 (0.073)
Number of Production Shocks				-0.078 (0.165)	-0.089 (0.164)	-0.073 (0.165)	-0.121 (0.190)
Number of Market Shocks				0.293** (0.133)	0.288** (0.133)	0.287** (0.132)	0.368** (0.150)
Gender of Household Head				-0.020 (0.223)	-0.081 (0.225)	0.006 (0.222)	0.086 (0.242)
Does HH have Electricity in Dwelling?				-0.050 (0.251)	-0.049 (0.254)	-0.050 (0.250)	-0.003 (0.281)
Has Non-Farm Enterprise				-0.078 (0.187)	-0.069 (0.187)	-0.085 (0.187)	-0.079 (0.218)
Primary Education Complete							-0.145 (0.125)
Secondary Education Complete							-0.169 (0.148)
University/Higher Education Complete							-0.514* (0.310)
Age in Months				0.029*** (0.005)	0.029*** (0.006)	0.029*** (0.005)	0.031*** (0.006)
Gender				0.146* (0.088)	0.151* (0.088)	0.139 (0.088)	0.086 (0.100)
Log of Education Expenditure				-0.035 (0.024)	-0.035 (0.025)	-0.035 (0.024)	-0.040 (0.028)

Household Asset Index				0.121**	0.119**	0.121**	0.088
				(0.059)	(0.060)	(0.059)	(0.068)
Log of Consumption per Capita				0.101	0.101	0.106	0.149
				(0.143)	(0.143)	(0.142)	(0.161)
Tropical Livestock Units				0.029**	0.027**	0.029**	0.022**
				(0.012)	(0.012)	(0.012)	(0.011)
Log of Plot Size of All Households				-0.013	-0.012	-0.015	-0.003
				(0.031)	(0.031)	(0.030)	(0.035)
Soil Workability (mean)				0.084	0.065	0.087	0.026
				(0.061)	(0.063)	(0.061)	(0.071)
Soil Nutrient Availability (mean)				-0.079	-0.005	-0.083	-0.097
				(0.065)	(0.071)	(0.065)	(0.075)
Borrow from Microfinance/Credit Associations/Bank				0.171	0.179	0.175	-0.213
				(0.329)	(0.330)	(0.329)	(0.383)
Borrow from Friends/Relatives/Money Lenders				-0.032	-0.030	-0.038	-0.086
				(0.152)	(0.153)	(0.152)	(0.172)
Borrow Food, or Rely on Friend/Relative?				-0.212	-0.218	-0.204	-0.389
				(0.234)	(0.236)	(0.234)	(0.270)
Government Assistance (food/cash/otherwise)				-0.307	-0.334	-0.312	-0.119
				(0.327)	(0.326)	(0.327)	(0.382)
Agri-extension (Government/Private Sector)				0.143	0.128	0.138	0.139
				(0.359)	(0.358)	(0.360)	(0.426)
Rural			0.395***			0.324**	0.325**
			(0.102)			(0.140)	(0.159)
2010/2011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
2012/2013	-0.868***	-0.951***	-0.854***	-0.797***	-0.820***	-0.782***	-0.729***
	(0.156)	(0.160)	(0.156)	(0.215)	(0.219)	(0.212)	(0.245)
2015/2016	-0.244*	-0.320**	-0.238*	-0.852***	-0.885***	-0.845***	-0.880***
	(0.127)	(0.129)	(0.127)	(0.199)	(0.199)	(0.199)	(0.226)
North-East		0.093			-0.016		
		(0.144)			(0.178)		
North-West		0.166			0.108		
		(0.138)			(0.165)		
South-East		-0.545***			-0.353*		
		(0.170)			(0.205)		
South-South		-0.353**			-0.452**		
		(0.175)			(0.206)		
South-West		-0.117			-0.097		
		(0.201)			(0.239)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3511	3511	3511	3212	3212	3212	2662

Rho	0.089	0.080	0.084	0.023	0.019	0.019	0.066
Panel Level sd.	0.568	0.537	0.550	0.277	0.254	0.252	0.483
Chi-Squared	139.83	155.28	148.99	205.56	209.68	207.80	165.74

Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

## 1.2 Underweight and Temperature<sub>t-1</sub>

Table 2: Logit Regressions (Coefficients) - Temperature<sub>t-1</sub> and Underweight

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Temperature <sub>t-1</sub> (°C)	0.692** (0.302)	0.469 (0.299)	0.698** (0.298)	1.268*** (0.365)	1.172*** (0.379)	1.283*** (0.363)	1.433*** (0.399)
Distance to Closest Water Source (km)				0.003 (0.019)	0.009 (0.019)	0.003 (0.019)	0.005 (0.021)
Distance to Closest Market (km)				-0.040 (0.025)	-0.044* (0.026)	-0.041* (0.024)	-0.081** (0.037)
Distance to Closest City (km)				-0.004 (0.006)	-0.003 (0.006)	-0.004 (0.006)	-0.007 (0.007)
Is there a Market in the Community?				0.455** (0.197)	0.410** (0.196)	0.456** (0.197)	0.427** (0.217)
Number of People in Household				-0.033 (0.058)	-0.024 (0.058)	-0.033 (0.058)	-0.042 (0.069)
Number of Meals to Children				0.110** (0.053)	0.113** (0.055)	0.110** (0.052)	0.098* (0.057)
Restricted Meals so Children can Eat				0.017 (0.078)	0.020 (0.077)	0.016 (0.078)	0.064 (0.082)
Number of Production Shocks				-0.249 (0.191)	-0.276 (0.192)	-0.247 (0.190)	-0.266 (0.214)
Number of Market Shocks				0.372** (0.165)	0.362** (0.166)	0.372** (0.164)	0.521*** (0.197)
Gender of Household Head				0.149 (0.293)	0.061 (0.295)	0.157 (0.293)	0.210 (0.311)
Does HH have Electricity in Dwelling?				0.211 (0.288)	0.199 (0.293)	0.209 (0.288)	0.120 (0.329)
Has Non-Farm Enterprise				0.328 (0.226)	0.339 (0.227)	0.329 (0.226)	0.386 (0.262)
Primary Education Complete							-0.170 (0.154)
Secondary Education Complete							-0.207 (0.180)
University/Higher Education Complete							-0.393 (0.395)
Age in Months				0.026*** (0.007)	0.025*** (0.007)	0.026*** (0.007)	0.023*** (0.007)
Gender				0.212** (0.107)	0.224** (0.108)	0.209* (0.107)	0.240** (0.120)
Log of Education Expenditure				-0.020 (0.030)	-0.024 (0.030)	-0.020 (0.030)	-0.033 (0.035)
Household Asset Index				0.170** (0.069)	0.174** (0.070)	0.170** (0.069)	0.170** (0.076)
Log of Consumption per Capita				-0.096 (0.172)	-0.085 (0.174)	-0.092 (0.172)	0.056 (0.184)
Tropical				-0.006	-0.006	-0.006	-0.003

Livestock Units				(0.007)	(0.007)	(0.008)	(0.005)
Log of Plot Size of All Households				-0.043 (0.036)	-0.045 (0.037)	-0.042 (0.036)	-0.045 (0.043)
Soil Workability (mean)				-0.138* (0.079)	-0.168** (0.080)	-0.137* (0.079)	-0.205** (0.089)
Soil Nutrient Availability (mean)				-0.218** (0.085)	-0.098 (0.088)	-0.221*** (0.086)	-0.243** (0.095)
Borrow from Microfinance/Credit Associations/Bank				0.235 (0.444)	0.276 (0.458)	0.235 (0.443)	0.094 (0.480)
Borrow from Friends/Relatives/Money Lenders				0.033 (0.177)	0.029 (0.179)	0.032 (0.177)	0.040 (0.196)
Borrow Food, or Rely on Friend/Relative?				-0.427 (0.262)	-0.466* (0.266)	-0.427 (0.262)	-0.697** (0.290)
Government Assistance (food/cash/otherwise)				0.153 (0.367)	0.167 (0.369)	0.155 (0.367)	0.440 (0.445)
Agri-extension (Government/Private Sector)				-0.231 (0.408)	-0.207 (0.409)	-0.231 (0.408)	-0.198 (0.482)
Rural			0.294** (0.121)			0.157 (0.172)	0.057 (0.190)
2010/2011	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2012/2013	-0.832*** (0.184)	-0.978*** (0.193)	-0.823*** (0.182)	-1.048*** (0.238)	-1.077*** (0.247)	-1.039*** (0.237)	-0.889*** (0.252)
2015/2016	-0.921*** (0.161)	-1.026*** (0.165)	-0.917*** (0.161)	-1.447*** (0.260)	-1.453*** (0.262)	-1.440*** (0.260)	-1.403*** (0.287)
North-East		0.285 (0.176)			0.050 (0.215)		
North-West		0.359** (0.173)			0.106 (0.205)		
South-East		-0.620*** (0.230)			-0.650** (0.277)		
South-South		-0.335 (0.210)			-0.476* (0.267)		
South-West		0.359* (0.215)			0.646** (0.261)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3886	3886	3886	3565	3565	3565	2936
Rho	0.147	0.138	0.144	0.119	0.119	0.117	0.155
Panel Level sd.	0.754	0.725	0.742	0.666	0.666	0.659	0.778
Chi-Squared	155.58	170.01	160.18	210.14	224.36	210.73	165.70

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Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model.

### 1.3 Stunting and Precipitation<sub>t-3</sub>

Table 3: Logit Regressions (Coefficients) - Precipitation<sub>t-3</sub> and Stunting

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Precipitation <sub>t-3</sub> (mm)	-0.014*	-0.014*	-0.015*	-0.020**	-0.020**	-0.021**	-0.019*
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)
Distance to Closest Water Source (km)				-0.002	-0.002	-0.004	-0.002
				(0.014)	(0.014)	(0.014)	(0.016)
Distance to Closest Market (km)				-0.007	-0.007	-0.009	0.006
				(0.017)	(0.017)	(0.017)	(0.024)
Distance to Closest City (km)				-0.002	-0.001	-0.002	-0.000
				(0.005)	(0.005)	(0.005)	(0.006)
Is there a Market in the Community?				-0.106	-0.118	-0.100	-0.077
				(0.166)	(0.167)	(0.166)	(0.185)
Number of People in Household				-0.071	-0.073	-0.070	-0.083
				(0.046)	(0.046)	(0.045)	(0.054)
Number of Meals to Children				0.073*	0.074*	0.071*	0.111**
				(0.043)	(0.043)	(0.042)	(0.054)
Restricted Meals so Children can Eat				0.042	0.040	0.041	0.041
				(0.064)	(0.064)	(0.064)	(0.072)
Number of Production Shocks				-0.096	-0.103	-0.090	-0.123
				(0.163)	(0.163)	(0.162)	(0.187)
Number of Market Shocks				0.275**	0.273**	0.267**	0.355**
				(0.132)	(0.132)	(0.131)	(0.148)
Gender of Household Head				-0.031	-0.049	-0.006	0.069
				(0.225)	(0.226)	(0.224)	(0.242)
Does HH have Electricity in Dwelling?				-0.041	-0.044	-0.042	-0.007
				(0.252)	(0.253)	(0.251)	(0.286)
Has Non-Farm Enterprise				-0.107	-0.101	-0.117	-0.118
				(0.185)	(0.185)	(0.184)	(0.213)
Primary Education Complete							-0.137
							(0.123)
Secondary Education Complete							-0.113
							(0.146)
University/Higher Education Complete							-0.504
							(0.306)
Age in Months				0.022***	0.022***	0.022***	0.023***
				(0.005)	(0.005)	(0.005)	(0.006)
Gender				0.153*	0.156*	0.145*	0.094
				(0.087)	(0.087)	(0.087)	(0.098)
Log of Education Expenditure				-0.033	-0.034	-0.033	-0.036
				(0.024)	(0.024)	(0.024)	(0.027)
Household Asset Index				0.119**	0.120**	0.118**	0.083
				(0.059)	(0.059)	(0.059)	(0.067)
Log of Consumption per Capita				0.059	0.062	0.064	0.090
				(0.141)	(0.141)	(0.140)	(0.157)
Tropical				0.028**	0.027**	0.028**	0.022**

Livestock Units				(0.012)	(0.012)	(0.012)	(0.011)
Log of Plot Size of All Households				-0.015 (0.030)	-0.015 (0.031)	-0.017 (0.030)	-0.007 (0.034)
Soil Workability (mean)				0.046 (0.061)	0.046 (0.062)	0.044 (0.060)	-0.017 (0.071)
Soil Nutrient Availability (mean)				-0.004 (0.068)	0.017 (0.071)	-0.002 (0.068)	-0.008 (0.077)
Borrow from Microfinance/Credit Associations/Bank				0.200 (0.326)	0.200 (0.327)	0.208 (0.325)	-0.150 (0.371)
Borrow from Friends/Relatives/Money Lenders				-0.016 (0.151)	-0.013 (0.152)	-0.024 (0.151)	-0.064 (0.169)
Borrow Food, or Rely on Friend/Relative?				-0.213 (0.233)	-0.210 (0.234)	-0.206 (0.233)	-0.363 (0.267)
Government Assistance (food/cash/otherwise)				-0.399 (0.325)	-0.413 (0.325)	-0.409 (0.325)	-0.253 (0.380)
Agri-extension (Government/Private Sector)				0.107 (0.351)	0.097 (0.351)	0.098 (0.350)	0.106 (0.415)
Rural			0.401*** (0.101)			0.391*** (0.144)	0.388** (0.162)
2010/2011	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2012/2013	-1.046*** (0.105)	-1.053*** (0.105)	-1.044*** (0.104)	-1.330*** (0.149)	-1.335*** (0.149)	-1.328*** (0.148)	-1.328*** (0.169)
2015/2016	-0.364*** (0.111)	-0.374*** (0.111)	-0.363*** (0.110)	-0.988*** (0.196)	-1.002*** (0.197)	-0.988*** (0.195)	-1.034*** (0.220)
North-East		0.097 (0.150)			0.005 (0.182)		
North-West		0.162 (0.146)			0.101 (0.175)		
South-East		-0.355* (0.198)			-0.262 (0.226)		
South-South		-0.017 (0.237)			-0.233 (0.266)		
South-West		-0.125 (0.198)			-0.091 (0.236)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3511	3511	3511	3212	3212	3212	2662
Rho	0.086	0.083	0.079	0.015	0.015	0.007	0.044
Panel Level sd.	0.558	0.547	0.531	0.224	0.221	0.153	0.389
Chi-Squared	147.75	155.60	157.70	207.71	208.61	211.20	170.50

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Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model.

## 1.4 Underweight and Precipitation<sub>t-3</sub>

Table 4: Logit Regressions (Coefficients) - Precipitation<sub>t-3</sub> and Underweight

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Precipitation <sub>t-3</sub> (mm)	0.007 (0.011)	0.006 (0.010)	0.007 (0.011)	0.002 (0.011)	0.001 (0.011)	0.002 (0.011)	0.007 (0.012)
Distance to Closest Water Source (km)				-0.001 (0.018)	0.004 (0.018)	-0.002 (0.018)	0.003 (0.020)
Distance to Closest Market (km)				-0.043** (0.020)	-0.047** (0.020)	-0.043** (0.019)	-0.067** (0.032)
Distance to Closest City (km)				-0.003 (0.006)	-0.002 (0.006)	-0.003 (0.006)	-0.005 (0.007)
Is there a Market in the Community?				0.507** (0.198)	0.469** (0.196)	0.508** (0.198)	0.469** (0.217)
Number of People in Household				-0.040 (0.054)	-0.034 (0.054)	-0.040 (0.054)	-0.043 (0.062)
Number of Meals to Children				0.103* (0.053)	0.103* (0.054)	0.102* (0.053)	0.082 (0.055)
Restricted Meals so Children can Eat				0.051 (0.078)	0.047 (0.077)	0.050 (0.078)	0.099 (0.081)
Number of Production Shocks				-0.249 (0.188)	-0.267 (0.190)	-0.248 (0.188)	-0.244 (0.210)
Number of Market Shocks				0.369** (0.162)	0.363** (0.164)	0.369** (0.162)	0.523*** (0.192)
Gender of Household Head				0.116 (0.296)	0.084 (0.297)	0.124 (0.295)	0.154 (0.311)
Does HH have Electricity in Dwelling?				0.205 (0.294)	0.199 (0.295)	0.200 (0.294)	0.110 (0.338)
Has Non-Farm Enterprise				0.279 (0.221)	0.290 (0.223)	0.280 (0.220)	0.322 (0.256)
Primary Education Complete							-0.153 (0.151)
Secondary Education Complete							-0.121 (0.177)
University/Higher Education Complete							-0.400 (0.392)
Age in Months				0.018*** (0.007)	0.018*** (0.007)	0.018*** (0.007)	0.015** (0.007)
Gender				0.218** (0.107)	0.228** (0.107)	0.213** (0.107)	0.238** (0.118)
Log of Education Expenditure				-0.018 (0.030)	-0.022 (0.030)	-0.017 (0.030)	-0.028 (0.034)
Household Asset Index				0.164** (0.068)	0.168** (0.069)	0.163** (0.068)	0.162** (0.075)
Log of Consumption per Capita				-0.149 (0.168)	-0.135 (0.171)	-0.145 (0.167)	-0.006 (0.180)
Tropical				-0.005	-0.005	-0.005	-0.002

Livestock Units				(0.007)	(0.007)	(0.008)	(0.005)
Log of Plot Size of All Households				-0.051 (0.036)	-0.053 (0.036)	-0.050 (0.035)	-0.049 (0.041)
Soil Workability (mean)				-0.166** (0.078)	-0.174** (0.078)	-0.168** (0.078)	-0.238** (0.088)
Soil Nutrient Availability (mean)				-0.142 (0.088)	-0.075 (0.088)	-0.142 (0.088)	-0.142 (0.098)
Borrow from Microfinance/Credit Associations/Bank				0.336 (0.445)	0.347 (0.458)	0.340 (0.444)	0.254 (0.482)
Borrow from Friends/Relatives/Money Lenders				0.055 (0.175)	0.048 (0.177)	0.053 (0.175)	0.067 (0.194)
Borrow Food, or Rely on Friend/Relative?				-0.445* (0.262)	-0.480* (0.264)	-0.446* (0.261)	-0.698** (0.288)
Government Assistance (food/cash/otherwise)				0.083 (0.363)	0.106 (0.364)	0.087 (0.364)	0.320 (0.440)
Agri-extension (Government/Private Sector)				-0.207 (0.402)	-0.190 (0.403)	-0.207 (0.402)	-0.191 (0.471)
Rural			0.287** (0.120)			0.221 (0.175)	0.144 (0.194)
2010/2011	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2012/2013	-1.228** (0.113)	-1.241** (0.114)	-1.222** (0.113)	-1.662*** (0.179)	-1.654*** (0.180)	-1.658*** (0.179)	-1.541*** (0.195)
2015/2016	-1.174** (0.143)	-1.188** (0.143)	-1.170** (0.143)	-1.625*** (0.256)	-1.614*** (0.258)	-1.620*** (0.255)	-1.572** (0.281)
North-East		0.313* (0.179)			0.071 (0.219)		
North-West		0.386** (0.177)			0.118 (0.217)		
South-East		-0.555** (0.261)			-0.598** (0.300)		
South-South		-0.201 (0.288)			-0.328 (0.356)		
South-West		0.334 (0.216)			0.633** (0.262)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3886	3886	3886	3565	3565	3565	2936
Rho	0.141	0.135	0.135	0.104	0.108	0.100	0.128
Panel Level sd.	0.735	0.718	0.718	0.617	0.632	0.604	0.696
Chi-Squared	154.61	163.84	158.34	207.36	216.79	208.51	166.65

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Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model.

## 1.5 Interaction effect of temperature and precipitation on Stunting

Table 5: Logit Regressions (Coefficients) - Climate Variables and Stunting

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Temperature <sub>t-1</sub> (°C)	0.105 (0.268)	0.084 (0.269)	0.120 (0.265)	1.043*** (0.382)	1.075*** (0.386)	1.052*** (0.378)	1.337*** (0.444)
Precipitation <sub>t-3</sub> (mm)	0.042 (0.028)	0.050* (0.030)	0.040 (0.027)	0.054* (0.030)	0.075** (0.032)	0.048 (0.030)	0.078** (0.034)
Temperature <sub>t-1</sub> (°C) × Precipitation <sub>t-3</sub> (mm)	-0.002** (0.001)	-0.002** (0.001)	-0.002** (0.001)	-0.002** (0.001)	-0.003*** (0.001)	-0.002** (0.001)	-0.003** (0.001)
Distance to Closest Water Source (km)				0.000 (0.015)	0.002 (0.015)	-0.001 (0.015)	-0.004 (0.017)
Distance to Closest Market (km)				-0.002 (0.019)	-0.003 (0.019)	-0.004 (0.018)	0.013 (0.024)
Distance to Closest City (km)				-0.002 (0.005)	-0.002 (0.005)	-0.003 (0.005)	-0.002 (0.006)
Is there a Market in the Community?				-0.154 (0.167)	-0.166 (0.167)	-0.150 (0.167)	-0.126 (0.185)
Number of People in Household				-0.056 (0.046)	-0.057 (0.046)	-0.055 (0.046)	-0.067 (0.055)
Number of Meals to Children				0.083* (0.044)	0.085* (0.044)	0.081* (0.044)	0.123** (0.055)
Restricted Meals so Children can Eat				0.016 (0.064)	0.016 (0.065)	0.014 (0.064)	0.008 (0.073)
Number of Production Shocks				-0.084 (0.165)	-0.094 (0.165)	-0.079 (0.164)	-0.114 (0.190)
Number of Market Shocks				0.286** (0.133)	0.282** (0.133)	0.279** (0.133)	0.364** (0.150)
Gender of Household Head				-0.022 (0.225)	-0.046 (0.225)	-0.002 (0.223)	0.092 (0.242)
Does HH have Electricity in Dwelling?				-0.038 (0.251)	-0.044 (0.252)	-0.037 (0.251)	0.027 (0.282)
Has Non-Farm Enterprise				-0.089 (0.186)	-0.077 (0.187)	-0.098 (0.186)	-0.088 (0.215)
Primary Education Complete							-0.161 (0.124)
Secondary Education Complete							-0.151 (0.148)
University/Higher Education Complete							-0.525* (0.309)
Age in Months				0.028*** (0.006)	0.028*** (0.006)	0.028*** (0.005)	0.030*** (0.006)
Gender				0.144 (0.088)	0.144 (0.088)	0.137 (0.088)	0.082 (0.099)
Log of Education Expenditure				-0.035 (0.024)	-0.035 (0.024)	-0.034 (0.024)	-0.040 (0.028)
Household Asset				0.117** (0.055)	0.118** (0.055)	0.116* (0.055)	0.081 (0.055)

Index				(0.059)	(0.059)	(0.060)	(0.068)
Log of Consumption per Capita				0.113 (0.143)	0.113 (0.143)	0.118 (0.143)	0.177 (0.161)
Tropical Livestock Units				0.028** (0.012)	0.026** (0.012)	0.028** (0.012)	0.022* (0.011)
Log of Plot Size of All Households				-0.012 (0.030)	-0.011 (0.031)	-0.014 (0.030)	-0.004 (0.034)
Soil Workability (mean)				0.064 (0.063)	0.072 (0.063)	0.061 (0.062)	-0.006 (0.073)
Soil Nutrient Availability (mean)				-0.055 (0.071)	-0.044 (0.072)	-0.047 (0.070)	-0.069 (0.081)
Borrow from Microfinance/Credit Associations/Bank				0.175 (0.328)	0.166 (0.327)	0.180 (0.327)	-0.206 (0.379)
Borrow from Friends/Relatives/Money Lenders				-0.035 (0.152)	-0.028 (0.153)	-0.043 (0.152)	-0.085 (0.171)
Borrow Food, or Rely on Friend/Relative?				-0.219 (0.235)	-0.224 (0.236)	-0.211 (0.235)	-0.384 (0.270)
Government Assistance (food/cash/otherwise)				-0.338 (0.326)	-0.358 (0.325)	-0.346 (0.326)	-0.163 (0.380)
Agri-extension (Government/Private Sector)				0.124 (0.356)	0.112 (0.357)	0.117 (0.356)	0.132 (0.422)
Rural			0.386*** (0.101)			0.376*** (0.145)	0.378** (0.162)
2010/2011	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2012/2013	-1.058*** (0.174)	-1.095*** (0.176)	-1.048*** (0.173)	-0.909*** (0.228)	-0.928*** (0.229)	-0.896*** (0.226)	-0.819*** (0.258)
2015/2016	-0.345*** (0.131)	-0.375*** (0.132)	-0.341*** (0.130)	-0.877*** (0.199)	-0.890*** (0.200)	-0.876*** (0.198)	-0.906*** (0.225)
North-East		-0.032 (0.157)			-0.130 (0.193)		
North-West		0.061 (0.151)			0.030 (0.179)		
South-East		-0.483** (0.206)			-0.332 (0.229)		
South-South		-0.305 (0.269)			-0.546* (0.296)		
South-West		-0.149 (0.203)			-0.130 (0.240)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3511	3511	3511	3212	3212	3212	2662
Rho	0.084	0.081	0.078	0.018	0.015	0.012	0.052

Panel Level sd.	0.549	0.538	0.527	0.248	0.225	0.203	0.426
Chi-Squared	157.34	162.20	165.55	211.12	212.97	214.29	173.53

Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model.

Precipitation<sub>*t*-3</sub> (mm)

## 1.6 Interaction effect of temperature and precipitation on Underweight

Table 6: Logit Regressions (Coefficients) - Climate Variables and Underweight

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Temperature <sub>t-1</sub> (°C)	0.698** (0.328)	0.582* (0.333)	0.716** (0.326)	1.415*** (0.398)	1.390*** (0.411)	1.425*** (0.395)	1.654*** (0.439)
Precipitation <sub>t-3</sub> (mm)	-0.026 (0.033)	-0.038 (0.037)	-0.024 (0.033)	-0.013 (0.038)	-0.012 (0.041)	-0.016 (0.038)	0.003 (0.041)
Temperature <sub>t-1</sub> (°C)× Precipitation <sub>t-3</sub> (mm)	0.001 (0.001)	0.002 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Distance to Closest Water Source (km)				0.000 (0.019)	0.009 (0.019)	-0.001 (0.019)	0.000 (0.021)
Distance to Closest Market (km)				-0.034 (0.022)	-0.038* (0.023)	-0.034 (0.021)	-0.061* (0.034)
Distance to Closest City (km)				-0.004 (0.006)	-0.003 (0.006)	-0.004 (0.006)	-0.007 (0.007)
Is there a Market in the Community?				0.423** (0.198)	0.388** (0.197)	0.423** (0.198)	0.381* (0.218)
Number of People in Household				-0.027 (0.058)	-0.021 (0.059)	-0.028 (0.058)	-0.031 (0.068)
Number of Meals to Children				0.107** (0.052)	0.110** (0.055)	0.106** (0.052)	0.091 (0.056)
Restricted Meals so Children can Eat				0.021 (0.078)	0.021 (0.076)	0.020 (0.077)	0.065 (0.081)
Number of Production Shocks				-0.244 (0.189)	-0.263 (0.191)	-0.242 (0.188)	-0.250 (0.211)
Number of Market Shocks				0.375** (0.165)	0.372** (0.166)	0.374** (0.165)	0.526*** (0.197)
Gender of Household Head				0.094 (0.294)	0.050 (0.295)	0.102 (0.294)	0.147 (0.311)
Does HH have Electricity in Dwelling?				0.213 (0.295)	0.213 (0.295)	0.209 (0.295)	0.136 (0.339)
Has Non-Farm Enterprise				0.327 (0.226)	0.335 (0.228)	0.329 (0.226)	0.377 (0.262)
Primary Education Complete							-0.162 (0.154)
Secondary Education Complete							-0.145 (0.180)
University/Higher Education Complete							-0.388 (0.395)
Age in Months				0.027*** (0.007)	0.026*** (0.007)	0.028*** (0.007)	0.025*** (0.008)
Gender				0.221** (0.108)	0.229** (0.108)	0.216** (0.108)	0.246** (0.120)
Log of Education Expenditure				-0.018 (0.031)	-0.022 (0.030)	-0.018 (0.031)	-0.031 (0.035)
Household Asset				0.167** (0.031)	0.172** (0.030)	0.166** (0.031)	0.162** (0.035)

Index				(0.069)	(0.070)	(0.070)	(0.076)
Log of Consumption per Capita				-0.095 (0.172)	-0.086 (0.174)	-0.090 (0.172)	0.065 (0.185)
Tropical Livestock Units				-0.007 (0.008)	-0.006 (0.008)	-0.007 (0.008)	-0.003 (0.005)
Log of Plot Size of All Households				-0.041 (0.036)	-0.045 (0.037)	-0.040 (0.036)	-0.043 (0.042)
Soil Workability (mean)				-0.177** (0.081)	-0.172** (0.081)	-0.181** (0.081)	-0.260*** (0.091)
Soil Nutrient Availability (mean)				-0.121 (0.093)	-0.071 (0.092)	-0.118 (0.092)	-0.125 (0.104)
Borrow from Microfinance/Credit Associations/Bank				0.282 (0.445)	0.306 (0.459)	0.283 (0.444)	0.155 (0.479)
Borrow from Friends/Relatives/Money Lenders				0.031 (0.178)	0.024 (0.180)	0.029 (0.177)	0.042 (0.198)
Borrow Food, or Rely on Friend/Relative?				-0.433 (0.264)	-0.469* (0.267)	-0.432 (0.264)	-0.698** (0.292)
Government Assistance (food/cash/otherwise)				0.190 (0.373)	0.205 (0.373)	0.196 (0.373)	0.475 (0.455)
Agri-extension (Government/Private Sector)				-0.181 (0.408)	-0.173 (0.410)	-0.179 (0.409)	-0.130 (0.482)
Rural			0.287** (0.121)			0.260 (0.178)	0.176 (0.197)
2010/2011	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2012/2013	-0.762*** (0.205)	-0.821*** (0.213)	-0.749*** (0.203)	-0.918*** (0.252)	-0.912*** (0.260)	-0.905*** (0.251)	-0.721*** (0.268)
2015/2016	-0.927*** (0.165)	-0.965*** (0.168)	-0.920*** (0.165)	-1.456*** (0.261)	-1.433*** (0.263)	-1.448*** (0.261)	-1.398*** (0.288)
North-East		0.282 (0.186)			0.028 (0.228)		
North-West		0.352* (0.185)			0.083 (0.221)		
South-East		-0.481* (0.271)			-0.568* (0.301)		
South-South		-0.050 (0.319)			-0.264 (0.384)		
South-West		0.414* (0.228)			0.666** (0.268)		
Controls	No	No	No	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	No	Yes
CRE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	No	Yes	No	No	Yes	No	No
Urban/Rural	No	No	Yes	No	No	Yes	Yes
Number of Observations	3886	3886	3886	3565	3565	3565	2936
Rho	0.143	0.138	0.138	0.119	0.121	0.114	0.152

Panel Level sd.	0.741	0.727	0.726	0.665	0.673	0.651	0.767
Chi-Squared	162.95	173.02	166.41	214.81	225.18	216.20	172.73

Clustered standard errors at the individual level. Controls represents whether geographical information, family characteristics, child characteristics, household wealth, agricultural characteristics, and household assistance controls were included. Education represents education controls. Rho is the proportion of the total variance contributed by the panel-level variance component. CRE denotes Correlated Random Effects Model.