

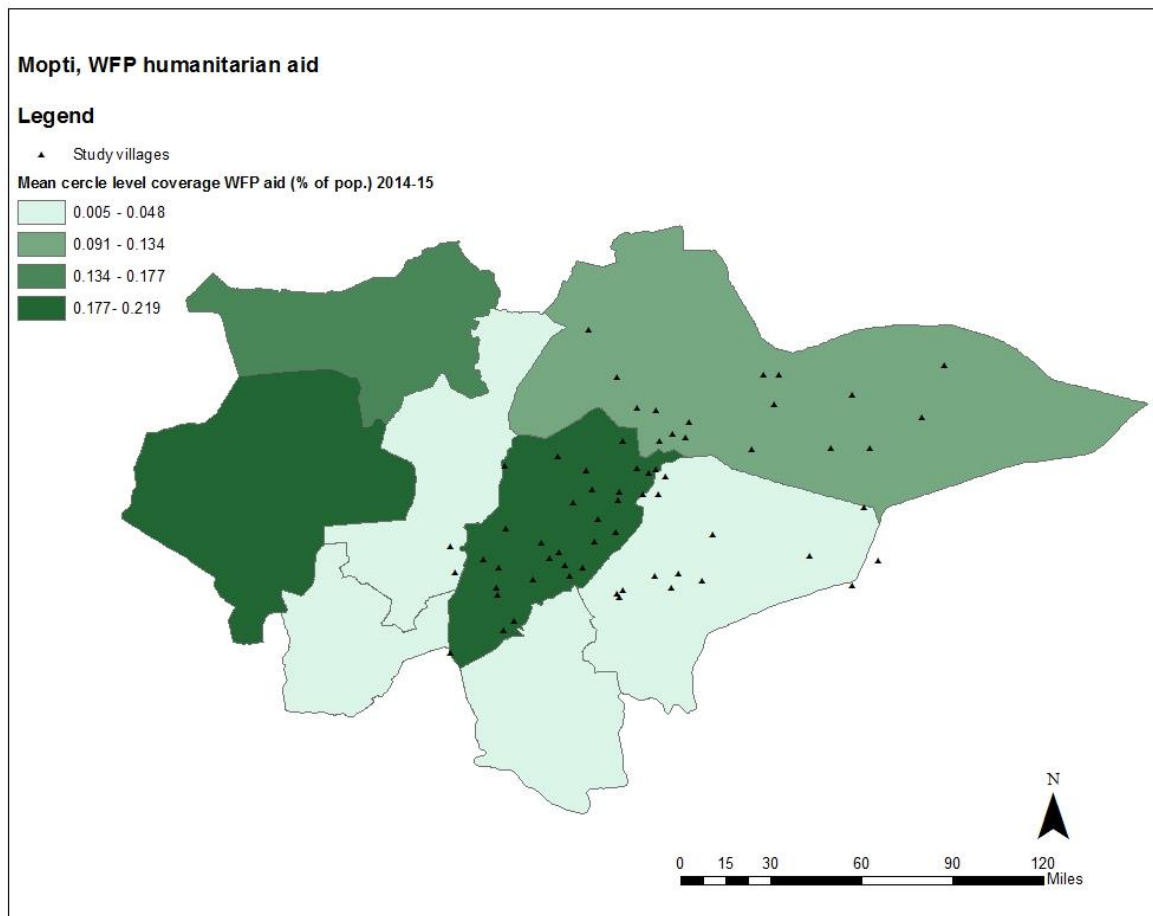
## **Supplementary appendix A. WFP food assistance and coverage in Mopti**

Table SA.A.1 presents World Food Programme (WFP) humanitarian activities in Mopti. Data on WFP beneficiaries were obtained for 2014 and 2015. In Mopti, WFP supported 228,649 beneficiaries in 2014 and 135,456 beneficiaries in 2015 after it scaled down its operations. The breakdown of beneficiaries and coverage by cercle (second-level administrative unit after region) is summarised in figure SA.A.2. WFP activities covered approximately 10 per cent of the Mopti population in 2014 and 6 per cent of the population in 2015. Average coverage between 2014 and 2015 appeared to be heterogeneous across the Mopti Region, peaking at 22 per cent of households in Bandiagara cercle and lowest in the cercles of Djenné and Koro (less than 1 per cent coverage).

Table SA.A.1. Interventions included in WFP food assistance activities, since January 2013

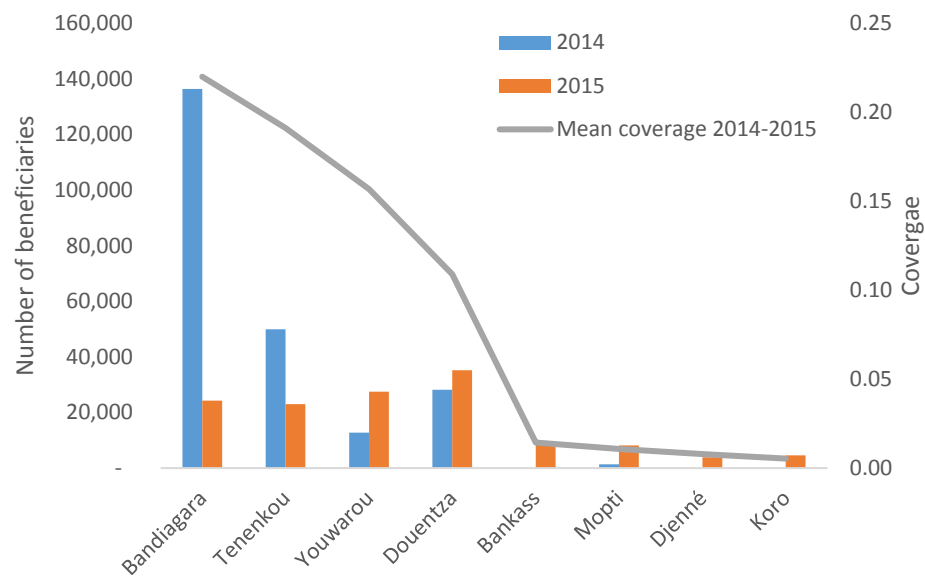
<i>Intervention</i>	<i>Targets</i>	<i>Objectives</i>	<i>Activities</i>
Generalised food distribution	Food-insecure or internally displaced populations. Woman-headed households, households that have lost income or assets, and households with elderly or disabled people	Assist all accessible moderately and severely food-insecure households and non-displaced persons, displaced persons, and host communities	Provide 2,100 kilocalories per person per day, consisting of cereals, pulses, vegetable oil and salt, with super cereal to increase micronutrient intake
School feeding	Primary school children in areas with high food insecurity	Prevent hunger and provide incentives to arrive on time and attend school until lunchtime; school attendance also reduces the exposure of children to other risks.	Two daily meals will be provided: a morning porridge of super cereal and a midday meal consisting of cereal, pulses, vegetable oil and salt.
Blanket supplementary feeding	Children aged 6–59 months; pregnant and lactating women	Blanket supplementary feeding to help prevent an increase in acute malnutrition	Provide children a half-sachet of Plumpy'Sup per day. Provide super cereal and vegetable oil to pregnant and lactating women. Nutrition and hygiene messages for mothers.
Targeted supplementary feeding	Children aged 6–59 months with moderate acute malnutrition; malnourished pregnant and lactating women	Treat moderate and acute malnutrition among children 6–59 months and malnourished pregnant and lactating women	Targeted supplementary feeding, providing 92 grammes of Plumpy'Sup per day. Rely on partners and community health worker screening and referral capacities, as well as functioning health centres
Food-for-work	Vulnerable and food insecure rural households	Empower people to meet their own needs by using food as an incentive	Communities identify projects that are able to improve their livelihoods and food security. The food incentive is distributed to localities according to the level of labour provided

Figure SA.A.1. Number of beneficiaries and estimated mean coverage of WFP food assistance activities, Mopti Region, 2014–2015



*Note:* Elaboration based on WFP data.

Figure SA.A.2. Beneficiaries and estimated mean coverage of WFP food assistance activities, Mopti Region, by cercle, 2014–2015



Source: Elaboration on WFP data.

Note: 2016 data were not available.

## **Supplementary appendix B. Descriptive statistics on food assistance**

GFD was the most common programme reported at village level (51 of 63 villages declared implementation in 2012–2017). School feeding and targeted supplementary feeding were implemented in 26 and 24 villages, respectively. With the exception of three villages, both interventions were implemented where GFD was also present. In two villages, food-for-work was offered alongside GFD. In the household sample, in the two years preceding the end line (2014–2016), 65 per cent of households did not receive any type of aid; 23 per cent of households received GFD; 16 per cent received school feeding; 6 per cent reported that preschool children or pregnant women received targeted supplementary feeding; and 6 per cent of households participated in food-for-work. There was limited overlap among different modalities across households: only 7 per cent of households received two forms of food assistance or more. If overlap existed, it overwhelmingly involved GFD and school feeding. However, only 61 households (less than 5 per cent of the sample) reported contemporaneous receipt of school feeding and GFD. Respectively, 2 per cent and 3 per cent of households reported receipt of GFD and food-for-work or GFD and supplementary feeding. Given these limited proportions, the study did not investigate the issue of complementarity in the effects of receiving two forms of aid as part of the main analyses.

### **Supplementary appendix C. Construction of school infrastructure and school governance indices**

The infrastructure and school governance indices were constructed through the first component of two separate principal component analyses. The school infrastructure index included the share of classes with blackboards, whether the school has sufficient classes, availability of toilets, soap in toilets, and whether the school has an in situ water source. For school governance, indicators included parent-teacher association, whether the school had registers, and whether the school had been inspected in the previous year. The separate inclusion of the indicators encompassed in the indices in the estimation of the propensity score does not change the main results (available upon request).

## Supplementary appendix D. Baseline predictors of food assistance receipt at end line

Table SA.D.1. Predictors of aid receipt at end line

	<i>Any aid</i>	<i>School feeding</i>	<i>Food aid</i>
Household size	0.005 (0.007)	0.006 (0.005)	-0.001 (0.006)
Dependency ratio	0.014 (0.027)	0.021 (0.019)	0.016 (0.027)
Second expenditure quartile	0.005 (0.053)	-0.048 (0.046)	0.021 (0.043)
Third expenditure quartile	-0.013 (0.064)	-0.059 (0.053)	0.057 (0.050)
Fourth expenditure quartile	0.028 (0.064)	-0.014 (0.057)	0.072 (0.052)
Number of school-age children	0.002 (0.017)	-0.018 (0.013)	-0.001 (0.014)
Main ethnic group (Dogon)	-0.142* (0.074)	0.006 (0.049)	-0.162** (0.073)
Age of household head	-0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Share of food in total expenditure	0.064 (0.145)	-0.127 (0.115)	0.165 (0.123)
Household dietary diversity	-0.018 (0.015)	-0.013 (0.011)	-0.007 (0.015)
Household is polygamous	-0.015 (0.042)	-0.016 (0.033)	-0.006 (0.039)
Household head is a worker	0.109 (0.102)	-0.001 (0.057)	0.143 (0.114)
Land size	0.000 (0.005)	0.008* (0.004)	-0.006 (0.004)
Secondary school less than 5 km distant	0.038 (0.078)	-0.027 (0.054)	0.048 (0.075)
Market less than 5 km distant	-0.123 (0.087)	-0.005 (0.059)	-0.112 (0.075)
Village had past development projects	0.158** (0.063)	0.093** (0.045)	0.099* (0.055)
Village is unsafe	-0.205* (0.109)	0.022 (0.113)	-0.221*** (0.064)
Number of cattle owned by household	-0.002 (0.006)	0.000 (0.004)	0.000 (0.005)
School infrastructure index	0.012 (0.033)	0.003 (0.024)	0.019 (0.035)
School governance index	0.022 (0.034)	0.001 (0.026)	0.031 (0.024)
Constant	0.445** (0.220)	0.239 (0.153)	0.252 (0.216)
Observations	870	870	870
R-squared	0.056	0.041	0.069

Note: Ordinary least squares regressions with standard errors (in parentheses) clustered among villages.

\*  $p < .1$  \*\*  $p < .05$  \*\*\*  $p < .01$



## **Supplementary appendix E. Intensity and drivers of conflict exposure**

According to analysis of the data, 10 of 64 villages reported the presence of armed groups during 2012–2017. This presence was quite stable: 70 per cent of these villages reported the presence of armed groups at follow-up. Most village leaders (85 per cent; N = 48) reported the presence of armed groups in the communes. The presence of armed groups was detrimental for the local population: 9 local leaders in 10 villages where armed groups were present reported episodes of violence against civilians. Armed groups were perceived as a threat to livelihoods and safety. Village data highlight that the armed groups did not act to substitute for the state, that is, no village leader reported that armed groups raised taxes, provided services, or administered local justice. While no infrastructural damage was reported among schools and health centres, there were frequent reports of closure because of the flight of government personnel. Thus, 14 primary schools stopped functioning because of the lack of teachers. Of these, half were closed in the aftermath of the 2012 coup, and the remainder stopped functioning between 2013 and early 2014. The closed schools were not all located in the villages where the rebel groups were present. Three schools were in areas where armed groups were absent (constituting 14 per cent of total schools in these areas); seven schools were in areas where rebels were present only in the local communes (21 per cent of total schools), and three schools were closed in villages where armed groups were present (representing 43 per cent of total schools). Separate qualitative analysis highlights that there was variation in the length of school closures based on the presence of armed groups, ranging from three months in unoccupied areas to the full period of occupation in the villages where armed groups were present.

The presence of the armed groups in the communes and in the villages was reflected among households in the strong likelihood of reporting any episode of violence and of restrictions on movement within and outside the villages. Table SA.E.1 highlights that households in villages where armed groups were present were much more likely to have experienced violence (including banditry, terrorism and armed attacks, political violence, destruction of infrastructure, kidnapping, and lynching) relative to households in communes where armed groups were present and to households in villages and communes without armed groups. Also, households in villages in which armed groups were present were more likely to report movement restrictions. About 40 per cent of households in villages with armed groups present reported reduced travel to school for children, compared with 18 per cent of households in communes where armed groups were present and 12 per cent of households in villages or communes without armed groups.

The experiences of households exposed to varying conflict intensity tended to be rather similar. The fact that even households not living in areas occupied by the armed groups reported a range of negative consequences underscores that the demarcation lines between different degrees of conflict intensity, as measured by the absence or presence of armed groups, were not always unambiguous. The analysis thus considers that the entire sample was negatively affected, to different degrees, by the conflict.

Tranchant, Gelli, and Masset (2019) estimate the likelihood that armed groups were present in a given village at any point between 2012 and 2017 based on preconflict village characteristics. Their estimates show that the likelihood of that armed groups were present tends to increase with (a) the proportion of the Peulh ethnic group living in the village and (b) the value of agricultural production

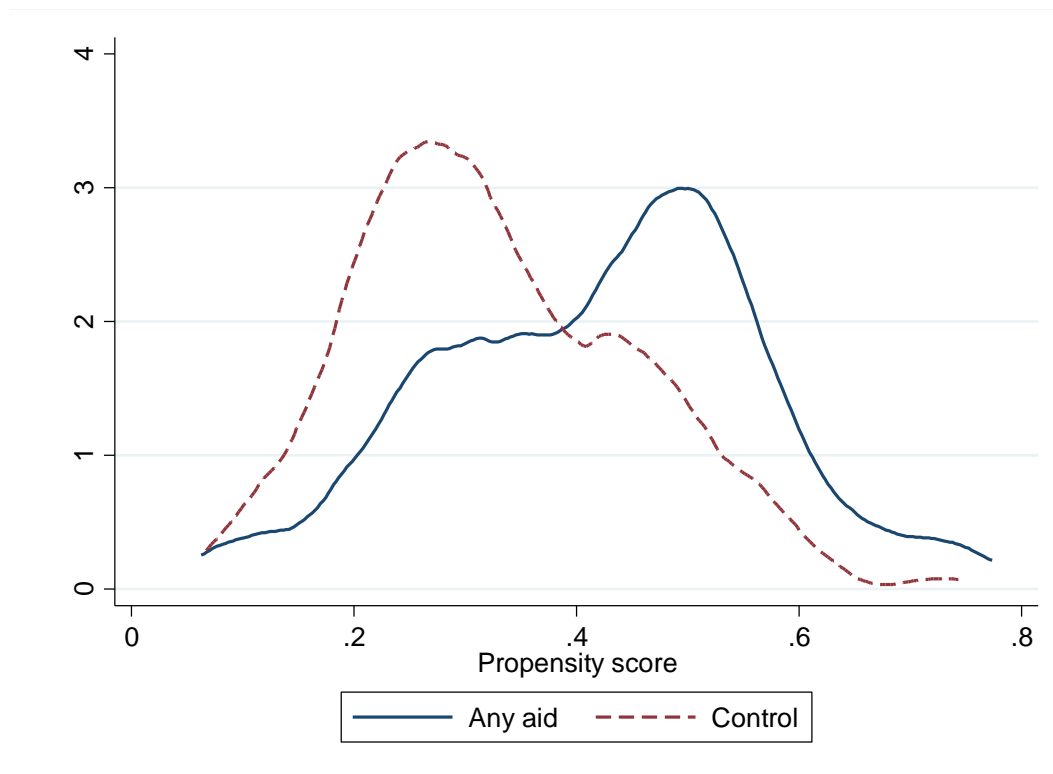
(measured by farming production and livestock holdings), whereas the likelihood of that armed groups were present strongly decreases with (c) the mean level of economic welfare in the village (measured by dietary diversity). Together, the results suggest that the presence of armed groups is related to communal dynamics (especially Peulh-Dogon relations), is fuelled by opportunistic motives (armed groups prioritised villages with higher farming and livestock output), and becomes less likely as economic development takes root.

Table SA.E.1. Household reports of violence and behavioural responses to conflict-related events at end line, means and probability from Pearson chi squared

	<i>No armed groups (N = 171)</i>	<i>Armed groups in the commune (N = 760)</i>	<i>Armed group in the village (N = 170)</i>	<i>Total (N = 1,101)</i>	<i>Pr. Pearson Chi Square</i>
Number of episodes of violence reported by the household	0.18	0.23	0.82	0.32	0.000
Household reporting any episode of violence	15%	15%	49%	21%	0.000
Fear travelling outside the village	46%	51%	79%	55%	0.000
Reduced travelling to health centres	28%	22%	56%	29%	0.000
Reduced travelling to aid centres	23%	21%	47%	26%	0.000
Reduced children travelling to school	12%	18%	39%	21%	0.000
Damage to property	0%	6%	6%	5%	0.332
Loss of property	48%	39%	48%	44%	0.500
Physical arm	0%	0%	4%	1%	0.108
Reduced mental health	18%	17%	10%	15%	0.483
Loss of revenue	33%	31%	24%	29%	0.587
Damage of common goods	0%	1%	0%	1%	0.581
Fear	0%	5%	8%	5%	0.260

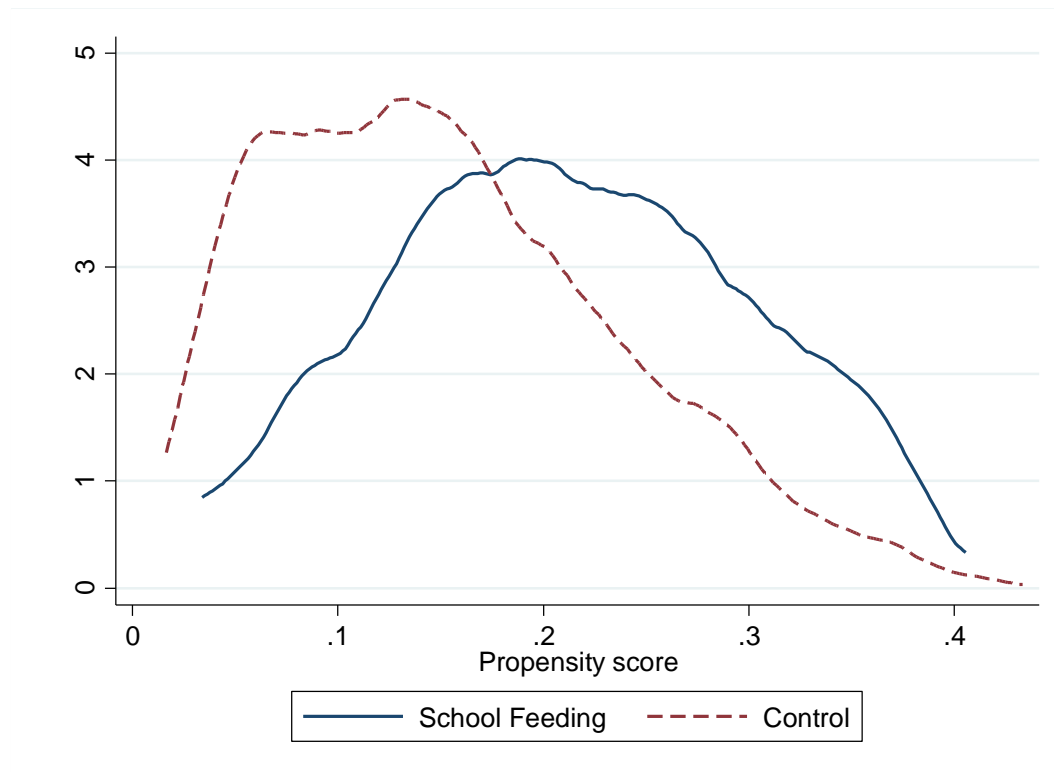
## Supplementary appendix F. Propensity score matching diagnostics

Figure SA.F.1. Kernel density of propensity score, by treatment group (any aid) (N = 4351)



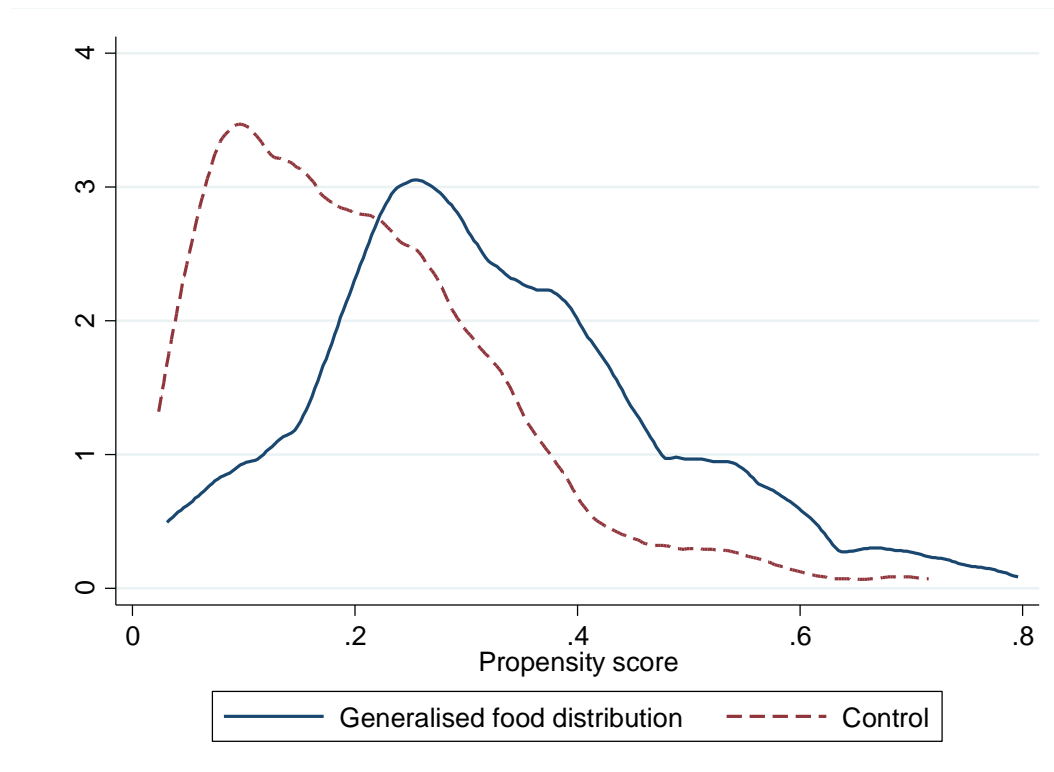
*Note:* Kernel density is estimated on the full longitudinal sample of villages.

Figure SA.F.2. Kernel density of propensity score, by treatment groups (school feeding) (N = 3094)



*Note:* Kernel density is estimated on the full longitudinal sample of villages.

Figure SA.F.3. Kernel density of propensity score, by treatment groups (food aid) (N = 3122)



*Note:* Kernel density is estimated on the full longitudinal sample of villages.

Table SA.F.1. Comparison of mean baseline characteristics and schooling outcomes between treated and untreated households, by type of food assistance programme

	<i>Any aid</i>				<i>School feeding</i>				<i>Food aid</i>			
	<i>Control (N=733)</i>	<i>Treated (N=399)</i>	<i>Difference</i>	<i>Pr(T&gt;t)</i>	<i>Control (N=949)</i>	<i>Treated (N=183)</i>	<i>Difference</i>	<i>Pr(T&gt;t)</i>	<i>Control (N=875)</i>	<i>Treated (N=257)</i>	<i>Difference</i>	<i>Pr(T&gt;t)</i>
Household size	9.565	9.771	0.206	0.3353	9.55	10.093	0.543	0.0498**	9.689	9.465	-0.224	0.3574
Dependency ratio	1.711	1.768	0.057	0.2817	1.712	1.827	0.115	0.0935*	1.724	1.754	0.03	0.6194
N of school-age children in the household	2.641	2.641	0	0.9975	2.636	2.667	0.031	0.7923	2.674	2.527	-0.147	0.153
Household is of main ethnic group	0.86	0.814	-0.046	0.0429**	0.841	0.857	0.016	0.5845	0.862	0.781	-0.081	0.0018***
Age of the household	49.788	49.456	-0.332	0.6653	49.844	48.773	-1.07	0.283	49.65	49.741	0.091	0.9171
1 <sup>st</sup> expenditure quartile	0.253	0.251	-0.002	0.9459	0.243	0.301	0.057	0.1018	0.261	0.223	-0.039	0.2123
2 <sup>nd</sup> expenditure quartile	0.246	0.244	-0.002	0.9259	0.246	0.24	-0.006	0.8666	0.252	0.223	-0.029	0.3378
3 <sup>rd</sup> expenditure quartile	0.256	0.226	-0.03	0.2685	0.256	0.191	-0.065	0.0633*	0.242	0.258	0.016	0.5979
4 <sup>th</sup> expenditure quartile	0.245	0.279	0.034	0.2117	0.255	0.268	0.013	0.7133	0.245	0.297	0.052	0.0959*
Proportion of budget for food	0.743	0.741	-0.001	0.8767	0.745	0.729	-0.016	0.1654	0.741	0.746	0.004	0.6518
Number of food groups	6.8	6.771	-0.029	0.7198	6.797	6.753	-0.044	0.6781	6.789	6.793	0.004	0.9656
Household is polygamous	0.35	0.327	-0.023	0.4328	0.346	0.32	-0.025	0.5114	0.348	0.322	-0.026	0.442
Household head is a worker	0.029	0.063	0.034	0.0056***	0.041	0.039	-0.003	0.8614	0.029	0.082	0.053	0.0001***
Land size	3.762	3.723	-0.039	0.8781	3.657	4.217	0.56	0.0928*	3.86	3.369	-0.491	0.0941*
Household owns cattle	3.104	3.141	0.036	0.8426	3.124	3.083	-0.041	0.8618	3.07	3.278	0.208	0.3176
Armed groups in village	0.098	0.102	0.004	0.8563	0.111	0.041	-0.07	0.0054***	0.087	0.145	0.058	0.0102**
Armed groups in region	0.677	0.597	-0.08	0.0093***	0.662	0.58	-0.083	0.0393**	0.667	0.59	-0.077	0.0290**
Secondary school within 5km	0.345	0.384	0.039	0.1907	0.352	0.393	0.041	0.2905	0.354	0.375	0.021	0.547
Market within 5km	0.285	0.241	-0.044	0.1158	0.273	0.251	-0.021	0.5497	0.281	0.23	-0.05	0.1109
Past development project in village	0.563	0.663	0.101	0.0010***	0.572	0.732	0.16	0.0001***	0.589	0.629	0.04	0.2549
Village unsafe	0.075	0.049	-0.026	0.0978*	0.062	0.087	0.025	0.2216	0.076	0.029	-0.047	0.0098***
School infrastructure index	-0.04	0.119	0.159	0.0150**	-0.015	0.178	0.193	0.0220**	-0.017	0.13	0.147	0.0473**
School governance index	-0.04	0.093	0.133	0.0458**	-0.003	0.074	0.077	0.3701	-0.035	0.145	0.18	0.0155**

Enrolled	0.49	0.545	0.055	0.0237**	0.49	0.612	0.122	0.0001***	0.509	0.509	0	0.9917
Days of absence	0.423	0.347	-0.077	0.3742	0.409	0.332	-0.077	0.4683	0.421	0.304	-0.117	0.2424
Grade attained	1.396	1.511	0.115	0.2264	1.39	1.676	0.286	0.0201**	1.444	1.411	-0.033	0.7631

\*\*\* p < .01 \*\* p < .05 \* p < 0.1

Table SA.F.2. Comparison of baseline characteristics and schooling outcomes between treated and untreated households in the propensity-score matched sample

	<i>Any aid</i>			<i>School feeding</i>			<i>Food aid</i>		
	<i>Mean Treated (N=399)</i>	<i>Mean Untreated (N=733)</i>	<i>Standardised diff.</i>	<i>Mean Treated (N=183)</i>	<i>Mean Untreated (N=949)</i>	<i>Standardised diff.</i>	<i>Mean Treated (N=257)</i>	<i>Mean Untreated (N=875)</i>	<i>Standardised diff.</i>
Household size	9.57	9.37	0.057	9.87	9.85	0.006	9.26	9.12	0.042
Dependency ratio	1.74	1.76	-0.029	1.8	1.78	0.026	1.7	1.7	0.007
Number of school-age children in the household	2.59	2.58	0.013	2.58	2.58	0.002	2.49	2.45	0.026
Household is of main ethnic group	0.83	0.82	0.002	0.87	0.89	-0.046	0.79	0.79	0
Age of the household	49.92	49.97	-0.005	49.61	49.38	0.019	49.94	49.97	-0.002
First expenditure quartile	0.32	0.31	0.037	0.41	0.41	0.009	0.26	0.25	0.034
Second expenditure quartile	0.23	0.23	-0.001	0.2	0.21	-0.018	0.22	0.21	0.016
Third expenditure quartile	0.21	0.21	-0.005	0.17	0.16	0.004	0.24	0.24	-0.002
Fourth expenditure quartile	0.24	0.25	-0.035	0.22	0.22	0.004	0.27	0.3	-0.051
Proportion of budget for food	0.74	0.74	-0.006	0.72	0.72	0.038	0.75	0.76	-0.039
Number of food groups	6.71	6.75	-0.031	6.62	6.65	-0.025	6.79	6.83	-0.029
Household is polygamous	0.34	0.33	0.022	0.35	0.35	0.005	0.31	0.29	0.034
Household head is a worker	0.06	0.05	0.011	0.03	0.04	-0.033	0.08	0.07	0.059
Land size	3.65	3.58	0.021	4.22	4	0.067	3.26	3.19	0.024
Household owns cattle	3.18	3.2	-0.008	3.34	3.32	0.005	3.22	3.23	-0.004
Armed groups in village	0.11	0.1	0.055	0.04	0.04	-0.006	0.15	0.13	0.055
Armed groups in region	0.61	0.58	0.055	0.54	0.56	-0.024	0.63	0.63	0.005
Secondary school within 5km	0.33	0.3	0.052	0.3	0.3	-0.004	0.33	0.33	-0.006
Market within 5km	0.15	0.16	-0.028	0.17	0.2	-0.076	0.13	0.14	-0.038
Past development project in village	0.68	0.68	-0.004	0.74	0.73	0.011	0.67	0.66	0.01
Village unsafe	0.06	0.06	0.028	0.12	0.11	0.037	0.04	0.04	-0.015
School infrastructure index	-0.03	0	-0.028	-0.03	-0.01	-0.028	0	0.07	-0.065
School governance index	-0.01	0.01	-0.022	-0.07	-0.07	0.002	0.06	0.09	-0.025
Enrolled	0.69	0.69	-0.016	0.7	0.69	0.016	0.69	0.69	-0.006
Days of absence	0.3	0.26	0.039	0.29	0.27	0.019	0.22	0.21	0.003
Grade attained	1.82	1.83	-0.01	1.69	1.74	-0.038	1.89	1.88	0.004

\*\*\* p < .01 \*\* p < .05 \* p < 0.1



## Supplementary appendix G. Robustness checks

Robustness checks were run. In all of them, the analysis controlled for the balance of the covariates and common support (available upon request). First, all baseline villages were included in the estimation of the propensity score, and all estimates were rerun. Table SA.G.1 reports that there were no substantial changes to the main results.

Second, the analysis investigated whether bias from overlap from the receipt of different forms of aid changed the results. The findings are presented in table SA.G.2. The inclusion of school feeding receipt in the propensity score led to slightly larger treatment effects for GFD in the case of absenteeism. Also, the coefficient related to grade attained became statistically significant at 10 per cent. In the case of school feeding, the inclusion of GFD receipt in the estimation of the propensity score did not affect the results. Finally, the sample was restricted to the longitudinal sample of children who were ages 7–10 at baseline and, at end line, were still of compulsory school age. The treatment effect estimates on this restricted sample were qualitative, the same as in the cross-section of children ages 7–16 at both survey rounds (available upon request).

Third, the analysis ran the main treatment effects by clustering the standard errors at village level instead of using bootstrapping. Conley and Taber (2011) show that cluster-robust standard errors over-reject the null when the number of clusters is low. The analysis therefore ran a robustness check by clustering the standard errors to take into account clustered sampling at the village level. These results are presented as table SA.G.3. The results were found to be broadly unchanged, though, in some cases, the coefficients were less precisely estimated. This similarity of the cluster-robust estimates with the bootstrapped estimates is reassuring in terms of the robustness of the main set of bootstrapped estimates because the cluster-robust estimates should be more conservative. The analysis did not include implementation of the strategy of wild bootstrapping proposed by Cameron and Miller (2015) because, according to McKinnon and Webb (2018), it is not entirely clear whether this strategy would solve the issue (in the case of low number of clusters).

Table SA.G.1. Treatment effects on education outcomes, including all baseline households in the estimation of the propensity score

	<i>Any aid</i>	<i>School feeding</i>	<i>General food distribution</i>
<i>a. Enrolment</i>			
Treatment effect	0.052	0.101***	0.029
	(0.036)	(0.037)	(0.033)
N	[4,294]	[4,199]	[4,267]
<i>b. Absenteeism</i>			
Treatment effect	–0.037	0.068	0.590***
	(0.152)	(0.167)	(0.179)
N	[1,393]	[1,326]	[1,297]
<i>c. Grade attainment</i>			
Treatment effect	0.029	0.537***	–0.221
	(0.149)	(0.166)	(0.136)
N	[4,287]	[4,197]	[4,258]

*Note:* The table shows difference in differences estimates with propensity scores. Estimates include child age, gender, a dichotomous variable for first-born child and whether the first-born was male. Bootstrapped standard

errors are in parentheses. Enrolment is a binary indicator showing whether the child was currently enrolled in school. Absenteeism is measured as the number of days the child was absent during the five-day school week previous to the survey. Grade attained is measured as the number of years of education completed.

\*  $p < .1$  \*\*  $p < .05$  \*\*\*  $p < .01$

Table SA.G.2. Robustness check: treatment effects, including receipt of the alternative programme in the propensity scores

	<i>Enrolment</i>		<i>Absenteeism</i>		<i>Grade attainment</i>	
	<i>School feeding</i>	<i>General food distribution</i>	<i>School feeding</i>	<i>General food distribution</i>	<i>School feeding</i>	<i>General food distribution</i>
Treatment effect	0.090**	0.011	0.098	0.710***	0.562***	-0.319*
	(0.042)	(0.041)	(0.174)	(0.209)	(0.178)	(0.178)
	[4,191]	[4,282]	[1,285]	[1,330]	[4,198]	[4,280]

*Note:* The table shows difference in differences estimates with propensity scores. The propensity score includes the receipt of general food distribution in the case of school feeding and the receipt of school feeding in the case of general food distribution. Estimates include child age, gender, a dichotomous variable for first-born child and whether the first-born was male. Bootstrapped standard errors are in parentheses. Enrolment is a binary indicator showing whether the child was currently enrolled in school. Absenteeism is measured as the number of days the child was absent during the five-day school week previous to the survey. Grade attained is measured as the number of years of education completed.

\*  $p < .1$  \*\*  $p < .05$  \*\*\*  $p < .01$

Table SA.G.3. Treatment effects with standard errors clustered at the village level

	<i>Any aid</i>	<i>School feeding</i>	<i>General food distribution</i>
<i>a. Enrolment</i>			
Full sample	0.051	0.102**	0.029
	(0.034)	(0.041)	(0.042)
	[4,294]	[4,209]	[4,270]
Girls	0.033	0.112*	-0.000
	(0.047)	(0.063)	(0.052)
	[1,885]	[1,827]	[1,869]
Boys	0.090**	0.117**	0.026
	(0.042)	(0.055)	(0.057)
	[2,100]	[2,097]	[2,067]
<i>b. Absenteeism</i>			
Full sample	-0.035	0.136	0.571*
	(0.253)	(0.329)	(0.308)
	[1,399]	[1,317]	[1,335]
Girls	-0.123	-0.134	0.320
	(0.270)	(0.392)	(0.318)
	[666]	[652]	[617]
Boys	0.122	0.323	0.892**
	(0.319)	(0.445)	(0.430)
	[639]	[629]	[632]
<i>c. Grade attainment</i>			
Full sample	0.149	0.542**	-0.292
	(0.232)	(0.274)	(0.310)
	[2,094]	[2,089]	[2,061]
Girls	0.071	0.628**	-0.229
	(0.202)	(0.258)	(0.185)
	[1,885]	[1,825]	[1,867]
Boys	0.031	0.540**	-0.221*
	(0.150)	(0.203)	(0.131)
	[2,098]	[2,095]	[2,057]

*Note:* The table shows difference in differences estimates with propensity scores. Estimates include child age, gender, a dichotomous variable for first-born child and whether the first-born was male. Standard errors in parentheses are clustered at the village level. Enrolment is a binary indicator showing whether the child was currently enrolled in school. Absenteeism is measured as the number of days the child was absent during the five-day school week previous to the survey. Grade attained is measured as the number of years of education completed.

\* p < .1 \*\* p < .05 \*\*\* p < .01

## **Supplementary appendix H. Child labour**

The household surveys collected information on the labour of all household members who had been above 5 years of age during the previous calendar year. Three dichotomous indicators of participation in labour among children of mandatory school age were developed: participation in any work (including farm work, housework, and wage or business work), participation in farm work (including agriculture and animal-rearing activities), and participation in housework (household chores and care). Participation in wage or business work was not included as a separate outcome because its prevalence was extremely low (about 2 per cent in both survey rounds). The household survey included follow-up questions on the number of months in which children were involved in any specific activity, which enabled the generation of three additional indicators on the duration (in months) of participation in any work activity. For the category related to the duration of any type of work, the months spent in all activity types for each child were summed, for a maximum of 12 months. The descriptive statistics presented in table SA.H.1 show that, consistent with the expectation of increased participation following the multiple shocks of conflict and drought and the noted decreases in school participation, involvement in child labour activities rose markedly between survey rounds. Also, they highlight a gendered pattern of participation in labour: boys were more involved in farm-related activities, and girls were more likely to work within the household.

Table SA.H.1. Descriptive statistics of occurrence of child labour, by gender

	<i>Baseline</i>			<i>End line</i>		
	<i>All children (N=3,409)</i>	<i>Girls (N=1,592)</i>	<i>Boys (N= 1,817)</i>	<i>All children (N=3,556)</i>	<i>Girls (N= 1,702)</i>	<i>Boys (N=1,854)</i>
Participation in child labour	0.40	0.40	0.41	0.81	0.81	0.80
	(0.49)	(0.49)	(0.49)	(0.40)	(0.39)	(0.40)
Participation in farm work	0.29	0.22	0.35	0.65	0.53	0.76
	(0.45)	(0.41)	(0.48)	(0.48)	(0.50)	(0.43)
Participation in housework	0.20	0.28	0.13	0.49	0.70	0.30
	(0.40)	(0.45)	(0.33)	(0.50)	(0.46)	(0.46)
Months spent in any work	3.39	3.73	3.10	7.64	8.41	6.95
	(4.94)	(5.22)	(4.65)	(5.06)	(5.02)	(5.00)
Months spent in farm work	1.33	0.81	1.79	4.53	3.09	5.79
	(2.71)	(1.78)	(3.25)	(4.64)	(3.92)	(4.85)
Months spent in housework	2.23	3.12	1.46	5.21	7.64	3.07
	(4.60)	(5.15)	(3.89)	(5.74)	(5.52)	(5.04)

*Note:* Means and standard deviations are in parentheses. The outcomes are binary indicators equal to 1 if the child reported involvement in any type of work, farm work, and housework, respectively, in the 12 months previous to the survey. The indicators of participation in work are dichotomous variables assuming the value of 1 if the child reported involvement in any type of work (including farm, housework, and waged or business work), farm work, and housework, respectively. The remaining indicators relate to months spent in any work, farm work, and housework.

Table SA.H.2. Impact of food assistance on occurrence of child labour, by intensity of exposure to conflict

	<i>Any aid</i>	<i>School feeding</i>	<i>General food distribution</i>	<i>Any aid</i>	<i>School feeding</i>	<i>General food distribution</i>
	<i>a.1. Participation in any work</i>			<i>a.2. Months spent in any work</i>		
No armed groups	0.037 (0.059) [1,690]	-0.076 (0.063) [1,677]	-0.001 (0.072) [1,484]	0.220 (0.605) [1,690]	-1.143* (0.686) [1,677]	0.062 (0.892) [1,484]
Armed groups in the commune	0.088** (0.041) [1,938]	0.046 (0.043) [1,764]	0.106* (0.056) [1,693]	0.535 (0.527) [1,934]	-0.312 (0.779) [1,764]	0.790 (0.536) [1,693]
Armed groups in the commune or village	0.164*** (0.039) [2,381]	0.095** (0.045) [2,106]	0.199*** (0.042) [2,407]	1.113** (0.470) [2,381]	0.627 (0.700) [2,113]	1.832*** (0.480) [2,404]
	<i>b.1. Participation in farm labour</i>			<i>b.2. Months spent in farm labour</i>		
No armed groups	-0.008 (0.057) [1,690]	-0.066 (0.071) [1,677]	-0.022 (0.063) [1,479]	-0.648 (0.443) [1,690]	-1.424*** (0.488) [1,672]	-0.399 (0.586) [1,484]
Armed groups in the commune	0.047 (0.042) [1,938]	0.041 (0.057) [1,764]	0.047 (0.052) [1,693]	-0.179 (0.316) [1,938]	-0.406 (0.501) [1,774]	-0.227 (0.416) [1,693]
Armed groups in the commune or village	0.101** (0.044) [2,376]	0.084 (0.054) [2,105]	0.100** (0.044) [2,404]	0.086 (0.322) [2,376]	-0.036 (0.357) [2,109]	0.265 (0.365) [2,403]
	<i>c.1. Participation in housework</i>			<i>c.2. Months spent in housework</i>		
No armed groups	0.064 (0.056) [1,685]	0.052 (0.066) [1,677]	0.024 (0.062) [1,484]	0.398 (0.593) [1,690]	-0.362 (0.747) [1,677]	-0.115 (0.742) [1,479]
Armed groups in the commune	0.021 (0.044) [1,938]	-0.015 (0.072) [1,767]	0.037 (0.063) [1,693]	0.259 (0.577) [1,934]	-0.150 (0.710) [1,767]	0.446 (0.597) [1,693]
Armed groups in the commune or village	0.064 (0.041) [2,376]	0.054 (0.052) [2,112]	0.095* (0.050) [2,407]	0.398 (0.620) [1,690]	-0.362 (0.724) [1,677]	-0.082 (0.672) [1,484]

*Note:* The table shows difference in differences estimates with propensity scores. Estimates include child age, gender, a dichotomous variable for first-born child and whether the first-born was male. The number of observations are in square brackets. Bootstrapped standard errors are in parentheses. Conflict intensity was defined by three dichotomous indicators: household residing where no armed groups were present in either the local village or commune, household residing where armed groups were present in the local commune only, and household residing where armed groups were present either in the local commune or village. It was not possible to estimate the effect of aid in villages directly occupied by armed groups because there were not sufficient observations that ensured balance in the propensity score between treatment and comparison groups. The outcomes are binary indicators equal to 1 if the child reported involvement in any type of work, farm work, and housework, respectively, in the 12 months previous to the survey.

\*  $p < .1$  \*\*  $p < .05$  \*\*\*  $p < .01$

## References

- Cameron, A. C., and Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50, 317–372.
- Conley, T. G., & Taber, C. R. (2011). Inference with 'difference in differences' with a small number of policy changes. *Review of Economics and Statistics*, 93, 113–125.
- MacKinnon, J. G., & Webb, M. D. (2018). The wild bootstrap for few (treated) clusters. *Econometrics Journal*, 21, 114–135.
- Tranchant, J.-P., Gelli, A., & Masset, E. (2019). *A micro-level perspective on the relationships between presence of armed groups, armed conflict violence, and access to aid in Mopti, Mali* (IFPRI Discussion Paper No. 1844). Washington, DC: International Food Policy Research Institute.