Food and Agriculture Organization of the United Nations

Assistance in chronic conflict areas: evidence from South Sudan

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Abstract

People living in contexts prone to or affected by conflict suffer from many forms of deprivation. The international community plays a crucial role in strengthening the wellbeing of affected populations, including their food security. Unfortunately, quite often people exposed to conflict are not reached by national or international assistance because of targeting, accessibility, and marginalization. This can ultimately translate into a further deterioration of their food security status.

This paper combines a geo-referenced household dataset collected in South Sudan in 2017 with the Armed Conflict Location and Events Data (ACLED), including information on conflict events. The collection of a very detailed household questionnaire in areas extensively affected by violence allows the analysis in a country generally underexplored by the empirical literature. We analyze the variation in conflict exposure across different households that live in the same district and we test the link between conflict exposure and humanitarian assistance.

We find that those who live in the higher-intensity conflict areas, received less assistance than those less exposed to the conflict. The association is stronger with in kind provision of inputs for agriculture and livestock rather than for direct food assistance. We suggest the presence of social elites and marginalization as a possible explanation. We discuss the advantages of using cash transfers through mobile phones to normatively decide beneficiaries; evidence also supports interventions combining input distribution and markets' rehabilitation. More evidence is needed on the modalities of delivery of humanitarian assistance in different food crisis contexts.

Keywords: conflict; assistance; South Sudan; food security.
JEL codes: O12; N47; Q18.

Acknowledgements

1   Food security, conflict and humanitarian assistance

Evidence continues to signal a rise in world hunger. According to available data, the number of people who suffer from hunger has been growing over the past three years, returning to levels from a decade ago. The absolute number of people in the world affected by undernourishment, or chronic food deprivation, has been on the rise since 2014, reaching an estimated 821 million in 2017 (FAO *et al.*, 2018).

The number of conflicts is also increasing, exacerbated by climate-related shocks; these affect food security and are a cause of much of the recent increase in food insecurity. Conflict is a key driver of situations of severe food crisis and recently re-emerged famines, while hunger and undernutrition are significantly worse where conflicts are prolonged and institutional capacities weak (FAO *et al.*, 2017). As examples of modern famines, in the ongoing conflicts in Yemen, Syria and South Sudan, starvation has re-emerged as an entirely man-made effect. There are also (lasting) development costs for societies that experience violent civil conflicts. In addition, the international "spillover" effects of conflicts can be large for neighboring countries faced with refugee flows, lawlessness on their borders, and the illicit trades in drugs, arms, and minerals that proliferate in conflict zones (Miguel, 2007).

Protracted conflicts have been a main cause of a rise in global hunger in recent years. Conflicts are also driving the dramatic increase in the number of forcibly displaced people - from 40 million people in 2011 to almost 70.8 million in 2018 (UNHCR, 2018b; World Bank, 2017). While migration may be considered as one way, people try to cope with violence, forced movements of people and food insecurity may also fuel conflicts. Actually, both staying and leaving carry high risks. Evidence suggests that insecurity is a main reason why people leave their livelihoods and migrate. Food security, strong social networks, and better livelihood opportunities, in contrast, are key reasons people opt to stay where they are.

In countries experiencing fragility, the delivery of public services – such as security, social protection, education, healthcare, clean water, energy and waste management – is often inhibited by conflict, weak capacity within public institutions and insufficient infrastructure (Slater *et al.*, 2016). Ongoing conflict, the risk of a return to conflict and high levels of insecurity make implementation of social protection programs more difficult and achieving predictable and regular transfers particularly problematic. More specifically, there are various concerns about adopting cash transfer programs in fragile and conflict-affected settings (Holmes, 2009; Holmes and Jackson, 2007; Willibald, 2006).

This paper contributes to this literature by exploring whether humanitarian aid has been effectively delivered to those most in need during the peaks of conflict in South Sudan, i.e. in 2017. In particular, the main contributions to the literature are: a) the use of a solid quantitative dataset collected in chronic conflict areas; b) the evidence that most exposed (to conflict) households are those who received less assistance; c) the confirmation that social norms affect the distribution of assistance into conflict areas; and d) the evidence that accessibility is not an obstacle to assistance delivery.

2 Previous research and hypotheses testing

One of the main problems identified by the literature on assistance to conflict-affected populations is the targeting mechanism of those who need to receive support. In order to determine who to target, information on the economy and population is essential. In some conflict-affected environments, however, much of this information could have been lost or destroyed (Holmes and Jackson, 2007).

Another issue is lack of accessibility; including all types of barriers to the adequate provision of food assistance and agricultural inputs in conflict-affected areas. In the past, this was mainly due to physical barriers as the lack of roads linked to the difficulty of transporting basic construction materials in remote areas (Maxwell, Gelsdorf and Santschi, 2012). To date, the key aspects of accessibility are legal and linked to the negotiations and agreements between humanitarian actors and parties of the conflict. The legal aspects affect the delivery of assistance by granting of No Objection Certificates for travelling in conflict-affected areas; roadblocks by non-state armed groups, Government or other actors; targeting of convoys and so on so forth. A recent review by Harmer, Stoddard and Sarazen (2018) offers an insight of the different legal approaches to enable access in armed conflict, ensuring aid operations. The different approaches, categorized in bilateral negotiations, joint protocols, red rules and peace agreements, are found to differently influence the delivery of assistance to the population living in conflict-affected areas.

A third problem identified by the literature relates to social norms. Aid workers often return from the field demoralized by an impression that existing power brokers easily capture the benefits of foreign aid projects (Fearon *et al*., 2009). Examples from Kenya (Kremer and Gugerty, 2008) found substantial evidence that funding changed group membership and leadership, weakening the role of the disadvantaged. Relationship-based networks of access regulate who can receive basic services and how they are provided. In general, there is a raft of evidence proving that local dynamics and interests heavily mediate access to services (Jacob and Nemat, 2018).

Furthermore, the typology of assistance to be delivered plays a role in explaining whether the intended beneficiaries will receive the assistance or not. There exists limited literature on differentials on reception of different kinds of assistance and their drivers. Over time, implementers and both national and international aid providers have found solutions, such as ensuring safe delivery mechanisms. There is a range of innovative and appropriate methods to safely transfer money to people. In Somalia and Afghanistan, for example, reliance on existing remittance organizations, money transfer companies and local banking systems have been effective and safe methods of delivering cash to beneficiaries, even in insecure areas (Holmes, 2009; Harvey, 2007; Mattinen and Ogden, 2006; Hofmann, 2005). Money can also be more discrete than the delivery of highly visible in-kind transfers (Harvey, 2007; Hofmann, 2005). Cash transfer programming is possible in post-conflict settings if appropriate security precautions are taken. Locating distribution sites close to police stations or near markets where money can be spent on the same trip helped to increase the feeling of security among beneficiaries during the project.

To the best of our knowledge, there is a lack of empirical evidence on whether formal support do reach the most vulnerable and affected population during conflict time. This is mainly explained by the challenge of conducting household survey in conflict-affected areas containing information on the formal assistance received. Taking the advantage of a unique dataset collected in South Sudan by FAO as well as of available data on the conflict events in the country, firstly we provide and test the following overall hypotheses:

H1: Population living in the most conflict-affected areas of South Sudan receive greater support with respect to the less-affected population.

Furthermore, building on the existing studies mentioned in the previous section on the main challenges behind the delivery of the assistance to conflict-affected population, we test two of the possible causes:

H2a: Population living in the most conflict-affected areas of South Sudan receive support conditional to the accessibility of the areas where they live.

H2b: Population living in the most conflict-affected areas of South Sudan receive support conditional to their participation to relationship-based networks that regulate who can receive assistance within the community.

Finally, we also examine a hypothesis related to the heterogeneity of the assistance. One may argue that food assistance, being a relief intervention, will be received by the most affected population while the distribution of productive inputs is provided to population not living in areas where the peak of the conflict does not allow productive activities.

H3a: Population living in the most conflict-affected areas receive food support rather than agricultural inputs.

H3b: Population living in the most conflict-affected areas receive food support rather than agricultural inputs conditional to their participation to specific typologies of relationship-based networks, as farmers and community police groups.

3   South Sudan context

South Sudan has experienced war for close to five decades when it was still a region within the Republic of Sudan. The country experienced civil wars from 1955 to 1972 and another one from 1983 to 2005. During this time, there was minimal development in the South Sudan region in terms of infrastructure and economic enablers; road networks were eroded, market infrastructures ruined and agricultural extension services collapsed. In 2005, after signing the Comprehensive Peace Agreement, South Sudan remained largely tranquil albeit scattered patches of incidents of local militia and inter-tribal conflicts were reported. Continuously over time, natural disasters including floods and droughts have exacerbated the food insecurity situation. In 2011, South Sudan was granted independence from the Republic of Sudan ushering a renewed hope for greater wellbeing and prosperity. In December 2013 and again during 2016, civil war reemerged within the new Republic of South Sudan, leading to significant loss of life and forced displacement of people both internally, as well as to neighboring countries and beyond.

The various conflicts have led to a forced displacement of human population, a disruption of economic activity, and minimal development of institutions and infrastructure. Consequently, South Sudan has become one of the world's worst humanitarian and food security situations. Up to 90 percent of the country's population depends on farming, fishing or herding to meet their food and income needs. Livestock, particularly cattle, goats and sheep, are an important social and economic asset in South Sudan. However, endemic diseases (such as hemorrhagic septicemia, contagious bovine pleuropneumonia, anthrax and goat plague) are undermining livestock production, threatening the livelihoods of 65 percent of South Sudan's population. The current conflict has caused abnormal movements (including disruption of traditional pastoralists' mobility and transhumance routes), heightening tensions between herders and settled farmers and increasing instances of disease outbreak.

Armed conflict and communal violence are destroying rural livelihoods, decimating assets, deepening poverty and increasing the vulnerability of millions of people. Agricultural production and food systems have been disrupted, livestock production has declined significantly, and the spread of violence to cereal surplus-producing areas in the State of Equatoria (South Sudan) is severely affecting crop production. Violence is limiting market access and disrupting trade flows, affecting livestock producers, consumers and traders alike. The economic impact of the current conflict on the livestock sector – which constitutes 15 percent of GDP in 2012 – has been extensive (Gebreyes *et al.*, 2016; GRSS, 2013).

Since July 2016, conflict has spread to new areas particularly to some of the country's most productive green-belt counties such as Greater Equatoria, severely affecting agricultural activities. Conflict-related disruptions to trade and high transport costs are also severely restricting food availability and inflating prices. Trade to central and northern Jonglei remains very low. Of major concern are counties in central Unity and Raja of Western Bahr el Ghazal, where markets consistently have minimal to no supplies.

Despite the creation of the High-Level Revitalization Forum (HLRF) in June 2017 and the official launch of the President Salva Kiir's initiative for a nation-wide dialogue in May 2017, the humanitarian situation in South Sudan remained highly volatile with the conflict spreading across areas that had previously been relatively stable. The humanitarian situation further deteriorated during 2018, resulting in an increased number of people in need of assistance. The limited infrastructure (which can further deteriorate during the rainy season) and security challenges further complicated the delivery of humanitarian assistance, in particular to the most remote locations (UNHCR, 2018a).

4 Data

4.1 Data sources

This analysis is based on a household level survey collected by the Food and Agriculture Organization of the United Nations (FAO), and on the Armed Conflict Location and Event dataset (ACLED).

The household data was collected from households living in four states of South Sudan; Lakes, Jonglei, Eastern Equatoria and Northern Bahr el Ghazal. The data collection was conducted during November and December 2017, using tablets. The sample of our analysis is composed by 1 950 resident households.[1]

The objective of the survey was to collect data on three key sets of variables of interest for monitoring and evaluation of two FAO projects:[2] household well-being outcomes (including poverty and food insecurity), household shock exposure, and household resilience. The questionnaire collected questions on several features of households' livelihoods. In particular, the questionnaire was designed to collect household information including but not limited to productive and non-productive assets, dwelling features, education, social networks and social safety nets (including access to credit), access to basic services (including schools, health facilities and markets), food and non-food consumption, conflict and income-generating activities.

The conflict data comes from the geo-referenced Armed Conflict Location and Event Dataset (ACLED)[3] that has recorded the date, location, actors, and types of conflict activity covering Africa, Middle East and South East Asia since 1997 (Raleigh *et al*., 2010). The ACLED data was combined with the household data, as explained below, exploiting the household and event geo-localization.

4.2 Assistance

This analysis focus on three outcome variables from the household survey: an indicator for whether the household received any type of formal assistance (cash or in-kind) in the 12 months preceding the interview; an indicator for whether the household received food assistance in the same period; and indicator for weather the household received inputs for agriculture and livestock production, such as seeds, tools and livestock in the same period.

In the sample of the analysis, the 33 percent of households received formal assistance during 2017. The majority of households receiving assistance are living in Bor South in Jonglei, and Kapoeta North, and Lopa/Lafon in Eastern Equatoria (Figure 1). Among those receiving assistance, 298 households received inputs, 240 households received food and 101 households both inputs and food. In total, the 17 percent of households received food assistance and 20 percent inputs for agriculture and livestock production. The analysis does not consider separately provided unconditional cash transfers since the only 38 households report having received cash transfers or cash vouchers during 2017.

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[1] From the original sample of 2 122 households we exclude 106 households without geo-refereed information and 66 IDP and returnee households. However, our results are consistent when the IDP and returnee households are included in the sample of the analysis.

[2] The FAO projects are the following: Sustainable Agriculture for Economic Resiliency (SAFER) project and Sustainable Food Security through Community-based Livelihood Development and Water Harvesting project.

[3] ACLED records the dates, actors, types of violence, locations, and fatalities of all reported political violence and protest events across Africa, South Asia, Southeast Asia, the Middle East, Central Asia and the Caucasus, and Southeastern and Eastern Europe and the Balkans. Political violence and protest activity includes events that occur within civil wars and periods of instability, public demonstrations, and regime breakdown.

Figure 1.   Formal assistance received during 2017 by county

% of households receiving assistance
- (44.79 – 74.57]
- (26.71 – 44.79]
- (4.35 – 26.71]
- [1.32 – 4.35]
- No data
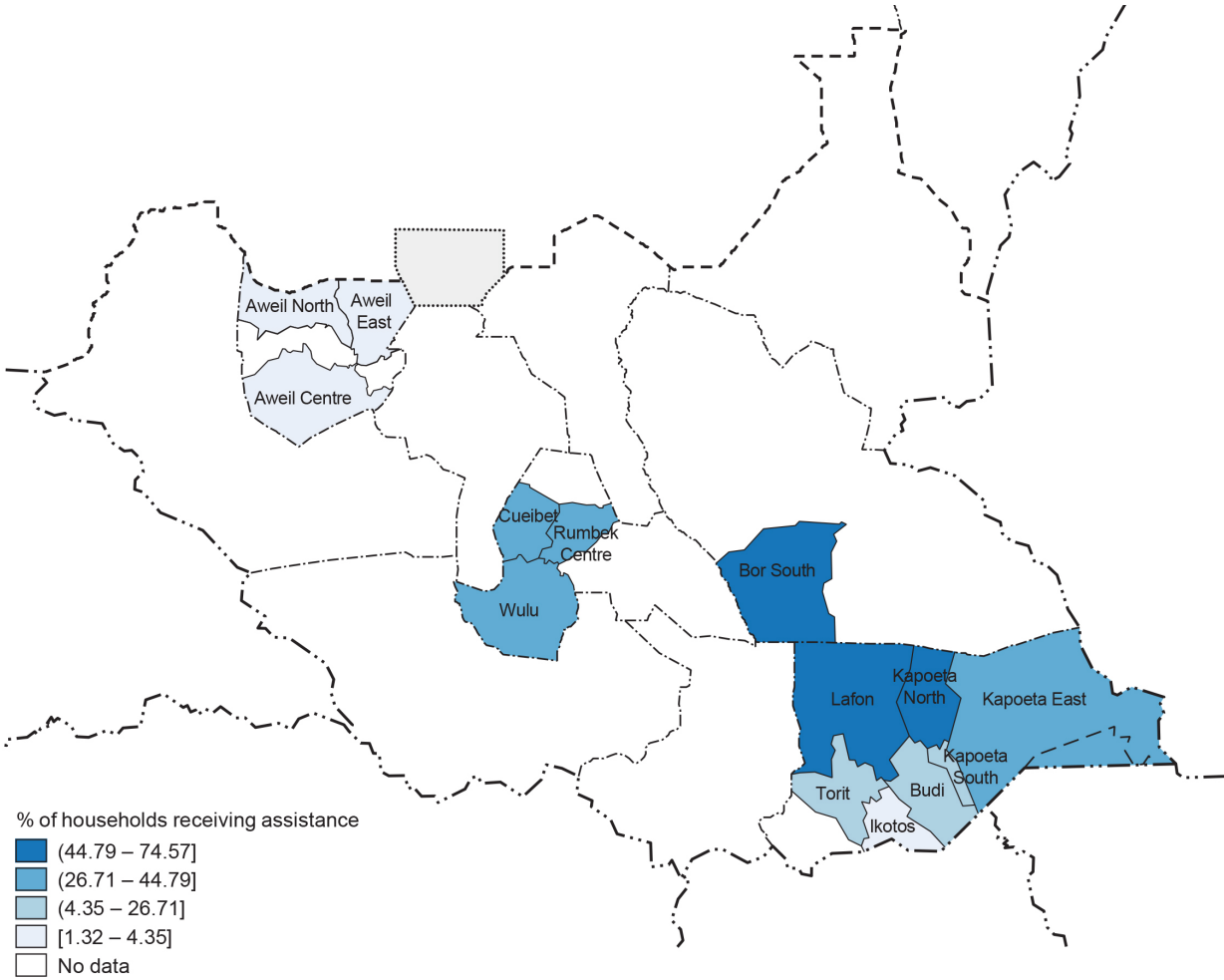
Source: Conforms to United Nations, South Sudan, Map No. 4450 Rev.1.1, October 2011.

One limitation of the dataset employed in this analysis is the lack of information on the source of assistance. This would have allowed us to disentangle the differences between assistance by national organizations, international organizations, government and other actors. A second limitation of the data used is the lack of data on the timing of the assistance.

4.3   Conflict exposure

To capture the household exposition to the conflict, we calculate the conflict intensity index as in Bozzoli *et al*. (2011). Using the information about the exact geographic location of each event (from ACLED dataset), the square of the Euclidean distance (d) between the household (i) and each of the events (yj) is calculated and based on this, the index is calculated as:

$$Conflict\ intensity\ index = \sum_{j=1}^{J} e^{-\propto d(y_j, i)}$$

where α is a distance-discount factor.[4] The index therefore captures the number of "geographically discounted" events for each household in the considered period.

The index is calculated using all the events reported in the ACLED dataset for the year 2016. The dataset reports 976 episodes in South Sudan during 2016, among those 372 with at least one fatality. Considering the states of the household survey, the following events are reported in 2016: 38 in Lakes, 90 in Jonglei, 89 in Eastern Equatoria and 26 in Northern Bahr el Ghazal.[5] Figure 2 shows the (mean) conflict intensity index for 2016 by county. During 2016 the households most exposed to the conflict were those living in Rumbek Centre in Lakes state, Bor South in Jonglei and Torit in Eastern Equatoria. To increase the robustness of the results, two additional indexes have been calculated: one employing only the events happened during 2016 with fatalities and a second one taking into accounts the events of 2017.[6] The mean of the conflict with fatalities index for 2016 and the conflict index for 2017 by county are shown respectively in the Figure A1 and A2 in the Annex.

Figure 2.   Conflict intensity index by county, 2016
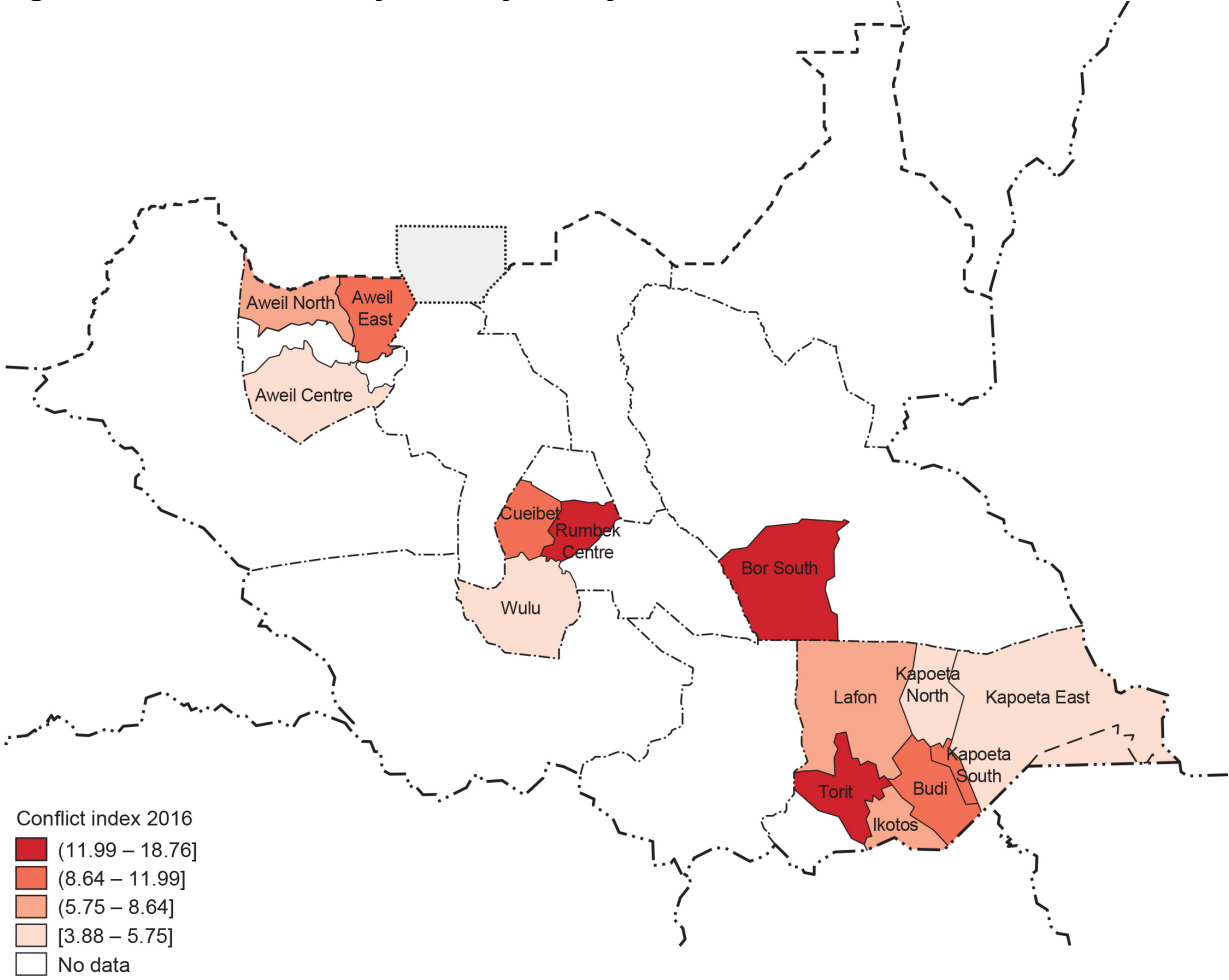
Source: Conforms to United Nations, South Sudan, Map No. 4450 Rev.1.1, October 2011.

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[4] We use α =10 as in Bozzoli *et al.* (2011).
[5] 299 in Central Equatoria, 119 in Unity, 79 in Upper Nile, 31 in Warrap, 109 in Western Bahr el Ghazal and 96 in Weastern Equatoria.
[6] During 2017, 1,200 events are reported in the ACLED dataset distributed as follows: 296 in Central Equatoria, 86 in Eastern Equatoria, 157 in Jonglei, 76 in Lakes, 20 in Northern Barh el Ghazal, 125 in Unity, 215 in Upper Nile, 43 in Warrap, 84 in Western Bahr el Ghazal, and 98 in Western Equatoria.

Note that this measure of conflict exposure captures the intensity of the conflict experience of all the households of the sample. Furthermore, being constructed using the geo-localization information in both the ACLED and the FAO household survey, this measure allows us to exploit the variation in conflict exposure across different households that live in the same district (or county). Moreover, the household exposition to conflict does not rely on the borders of the districts with an increase in the level of precision of the measure.

The household survey collected by FAO includes a conflict module capturing self-reported household exposure to violence. We calculated a second index for exposure to violence using the information collected thought the household interviews. Specifically, this index sums four indicators (0-1 dummy variables) for weather the household in the 12 months preceding the interview experienced: (i) asset losses due to fighting or looting; (ii) household members killed or kidnapped; (ii) household members conscripted (compulsory enlistment to the national armed services); and (iv) household members displaced. Therefore, the resulting index ranges between 0 and 4. On average the interviewed households report an index of 0.28.

5 Estimation framework

In order to determine whether assistance reaches the households most affected by the conflict, we model the probability of receiving assistance by including the household exposure to the conflict events. The reception of assistance for a household *i* is captured by a binary variable *assistance* that has a value of 1 if the households has received any type of formal assistance in the 12 months preceding the interview and 0 otherwise. Using a probit model, the probability of receiving assistance is expressed as:

$$prob \ (assistance_i = 1) = \Phi(x'\beta) \qquad (1)$$

Where x is a vector of variables including household characteristics affecting the household's probability of receiving assistance and β represents a vector of the estimated coefficients.

The main repressor of interest is the conflict intensity index. As suggested by Tranchant *et al*. (2018), on one hand, assistance is likely to be delivered to the most food insecure households; on the other, conflict-related logistical challenges may cause the assistance to not reach those most in need. The probit model allows us to profile the households receiving assistance and to test whether the households most affected by the conflict are those most receiving assistance. The self-reported indicator of conflict exposure is also included in the model.

The probit model constraints the probability to a [0,1] interval by assuming a cumulative density function that follows a normal distribution $\Phi(\cdot)$. Given our sample size (N=1 950), we assume a normal distribution and we base our primary analysis on the probit model. Nevertheless, our results are robust to alternative functional forms as logit and linear probability models.[7]

In the absence of panel dataset, we can only control for the observable variables. We therefore caution the reader against interpreting our estimates as identifying a causal relationship – particularly when unobservable characteristics are correlated with the observed one. To limit the potential endogeneity, we use a lagged conflict intensity index. While the outcome of interest refers to the assistance received during the year 2017, the conflict intensity index refers to the year 2016. Moreover, the assistance is expected to reach the affected households with some months of delay with respect to the occurrence of the events[8]. Nevertheless, the model we propose does not aim at providing a complete causal analysis, but rather to provide a careful descriptive analysis in a multivariate setting, which we believe to be of value in offering a contribution to the scarce empirical evidence on the delivery of humanitarian assistance in chronic conflict-affected areas, by using household-level and geo-referenced conflict data.

We include a rich set of household controls. We take into account household demographic characteristics (household size, the share of members in working age over the household size, average years of education of the household members, the gender of the household head),[9] household welfare variables (wealth index, land, livestock), closeness indicators (closeness to primary schools, agriculture market, livestock market and health facilities) and social networks (participation in farmers' groups, livestock associations, Farmer Field School [FFS] / Pastoral Field School [PFS]). The household welfare variables can strongly correlate with the outcome

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[7] Results are not shown but available upon request.

[8] This somehow mimics the different time horizon for assistance delivery. Food assistance invariably arrives much faster as it is immediate humanitarian life-saving assistance; whereas livelihood support is not immediate lifesaving, though critical, and may be delayed due to seasonality (planting timing etc.) as much as access constraints.

[9] Due to the lack of information on the gender of the household head for all the sample of the analysis, the gender of the respondent is used when the gender of the household head is not available (400 observations).

variable. This can be the case of livestock owned by the household that can be both a welfare measure for the households living in South Sudan, and a result of livelihood-based assistance. The estimates are therefore shown with and without control variables. County (or district) fixed effects are included in all specifications in order to capture the unobservable time-invariant characteristics at county-level that can influence the probability of receiving the assistance, such as the road network. Table A1 shows the summary statistics of all the variables used in the analysis.

To take into account the heterogeneity of assistance, we additionally model the probability of receiving food assistance and the probability of receiving inputs for agriculture and livestock production using the same set of observable variables. One may argue that food assistance targets the households most affected by the conflict since they are in need of immediate humanitarian support while the distribution of inputs for agriculture and livestock production targets the households living in relatively safer areas, further away from the violent events.

6   Analysis and results

In this paper we investigate whether the lack of assistance can be attributed to the main drivers mentioned in the literature (i.e. targeting, accessibility, social norms). Unfortunately, we did not find any indicator to track the targeting capacity (Hofmann, 2005; Holmes and Jackson 2007). The connection between lack of adequate information on the local economy and the targeting cannot be depicted easily in a micro-econometric study. Otherwise, we employed indicators for accessibility (i.e. distance between the (potential) beneficiaries and main services, such as market, school and health facility) and social norms (the membership to social networks/elites).

Our results are robust to alternative measures of conflict exposure. The main results employ the conflict intensity index calculated using the 2016 events of the ACLED dataset. We additionally exploit two different dimensions of conflict exposure: the time and the magnitude of violence. First, we used the 2016 conflict index calculated considering only the events with at least one fatality to take into account the level of violence. Second, we calculate the conflict index for 2017 taking into consideration contemporaneous effects. In both cases the evidence confirms the negative and statistically significant association between conflict exposure and received assistance (Table A2 and A3). We avoid using conflict information before 2016 since we can control for the household location only for 2017. Nevertheless, we believe that forced displacement is not a concern for the validity of our results based on the 2016 index since the totality of the households of the analysis are resident households.[10]

Table 1 reports the regression results based on equation (1) using the 2016 conflict index. In all the specifications, the outcome is a dummy equal to one if the household received any type of formal assistance. The models from (1) to (5) are increasing in the number of control variables.

Looking at the effect of conflict exposure, the 2016 conflict index is negatively associated with the probability of receiving formal assistance. The introduction of the control variables does not change the significance and the direction of the association between conflict exposure and assistance; rather the association becomes stronger. These results indicate that assistance was not received by the South Sudanese households most affected by the conflict. The same negative association between conflict exposure and assistance is confirmed by the self-reported conflict exposure indicator (model 5).

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[10] Our results are robust to the inclusion of the 66 IDP and returnee households while the association becomes slightly weaker.

Table 1.   Determinants of formal assistance

	Formal assistance				
	(1)	(2)	(3)	(4)	(5)
Conflict indicators					
2016 Conflict index	-0.0545***	-0.0488***	-0.0495***	-0.0489***	-0.0519***
	(0.0164)	(0.0160)	(0.0160)	(0.0160)	(0.0162)
Self-reported conflict exposure					-0.163***
					(0.0626)
Household characteristics					
Household size	-0.0381**	-0.0278*	-0.0285*	-0.0320*	-0.0306*
	(0.0161)	(0.0165)	(0.0166)	(0.0167)	(0.0167)
Share of active members	0.0144	0.0216	0.0226	0.0256	0.0281
	(0.0294)	(0.0296)	(0.0298)	(0.0301)	(0.0303)
Average education	0.00353	0.00760	0.00781	0.00570	0.00714
	(0.0148)	(0.0153)	(0.0153)	(0.0155)	(0.0156)
Female head	-0.189**	-0.169*	-0.168*	-0.185**	-0.166*
	(0.0894)	(0.0909)	(0.0909)	(0.0928)	(0.0933)
Welfare variables					
Wealth index		-0.512	-0.502	-0.425	-0.375
		(0.561)	(0.559)	(0.561)	(0.572)
Land		0.381**	0.372**	0.350**	0.344*
		(0.178)	(0.178)	(0.178)	(0.177)
Tropical Livestock Unit		0.302***	0.301***	0.294***	0.296***
		(0.0543)	(0.0543)	(0.0549)	(0.0550)
Closeness indicators					
Primary school			-1.067	-1.162	-1.206
			(1.212)	(1.228)	(1.232)
Livestock market			0.372	0.223	0.216
			(0.995)	(0.995)	(0.990)
Crop market			-0.268	-0.368	-0.349
			(0.737)	(0.739)	(0.759)
Health facility			0.0145	0.140	0.162
			(1.574)	(1.591)	(1.602)
Social networks					
Farmers' group				0.253*	0.254*
				(0.138)	(0.138)
Livestock association				0.206	0.114
				(0.597)	(0.603)
Farmer/Pastoral Field School				0.00847	0.0184
				(0.127)	(0.127)
Women group				-0.0567	-0.0394
				(0.272)	(0.267)
Community police group				0.288*	0.314**
				(0.154)	(0.154)
Constant	0.0302	-0.205	-0.181	-0.186	-0.189
	(0.200)	(0.220)	(0.222)	(0.221)	(0.223)
County dummies	yes	yes	Yes	yes	yes
Observations	1 950	1 950	1 950	1 950	1 950

Notes: Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Source: Author's own elaboration.

The evidence suggests that accessibility is not an obstacle to assistance delivery in South Sudan. Households that live closer to the main community services, such as schools, markets and health facilities are as likely to receive formal assistance as those living far from such services. The effect is robust to the inclusion of district fixed effects.

As a further contribution to the debate, we find a positive association between participation in farmers' and community police groups, and access to formal assistance. This can be evidence of the effects of the social norm mechanism. In other words, the community network may regulate who can access the assistance. Alternatively, this may be an indication of elite capture (Post 2008) due to threat of violence.

Among the control variables, households owing livestock are on average more likely to receive assistance. As above, this association can be driven by the nature of the assistance and by the fact that assistance and livestock ownership are measured at the same time. A positive but weaker association is found between land ownership and formal assistance.

Since it is likely that different types of assistance target different profiles of households, Table 2 shows the results of determinants of assistance by assistance type. What we are investigating, here, is the whether we can associate a sub-set of assistance (in-kind or food) to specific groups of population. Columns 1 to 5 refers to food assistance while columns 6 to 10 to inputs for agriculture and livestock.[11]

The evidence confirms a negative and statistically significant association between conflict exposure and assistance, even when the two types of assistance are considered separately. The association is weaker, but the direction of the relationship is confirmed for both food assistance and in-kind inputs for agriculture and livestock. Nevertheless, the strongest negative relationship is found between conflict exposure and the reception of inputs for agriculture and livestock.

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[11] This table proposes the same approach of Table 1 but for two different outcomes in order to take into account the heterogeneity of assistance.

Table 2. Determinants of food and input assistance

	Food assistance					Inputs for agriculture and livestock				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Conflict indicators										
2016 Conflict index	-0.0327*	-0.0330*	-0.0337**	-0.0285*	-0.0306*	-0.0487**	-0.0424**	-0.0416*	-0.0441**	-0.0455**
	(0.0172)	(0.0171)	(0.0172)	(0.0170)	(0.0175)	(0.0209)	(0.0214)	(0.0218)	(0.0220)	(0.0221)
Self-reported exposure					-0.127					-0.124*
					(0.0817)					(0.0705)
Household characteristics										
Household size	-0.00755	-0.00002	0.000214	-0.00164	-0.000984	-0.0280	-0.0158	-0.0175	-0.0259	-0.0245
	(0.0181)	(0.0185)	(0.0185)	(0.0186)	(0.0186)	(0.0175)	(0.0183)	(0.0183)	(0.0190)	(0.0190)
Share of active members	-0.0355	-0.0326	-0.0316	-0.0271	-0.0260	0.0172	0.0265	0.0276	0.0397	0.0422
	(0.0376)	(0.0375)	(0.0376)	(0.0378)	(0.0380)	(0.0318)	(0.0318)	(0.0321)	(0.0321)	(0.0323)
Average education	-0.0107	-0.0103	-0.0110	-0.0109	-0.00923	0.00475	0.0153	0.0170	0.00711	0.00749
	(0.0178)	(0.0182)	(0.0182)	(0.0188)	(0.0188)	(0.0163)	(0.0174)	(0.0174)	(0.0171)	(0.0171)
Female head	-0.00461	0.00665	0.00480	-0.0314	-0.0174	-0.245**	-0.231**	-0.240**	-0.257**	-0.243**
	(0.106)	(0.106)	(0.106)	(0.111)	(0.112)	(0.0985)	(0.103)	(0.103)	(0.105)	(0.105)
Welfare variables										
Wealth index		-0.230	-0.242	-0.206	-0.155		-1.714**	-1.663*	-1.264	-1.263
		(0.647)	(0.651)	(0.666)	(0.667)		(0.873)	(0.873)	(0.829)	(0.838)
Land		0.360*	0.364*	0.327	0.315		0.252	0.219	0.185	0.180
		(0.215)	(0.216)	(0.213)	(0.213)		(0.217)	(0.220)	(0.225)	(0.224)
Tropical Livestock Unit		0.0154	0.0156	-0.00596	-0.00721		0.358***	0.353***	0.340***	0.340***
		(0.0515)	(0.0517)	(0.0545)	(0.0542)		(0.0592)	(0.0600)	(0.0597)	(0.0601)
Closeness indicators										
Primary school			-0.414	-0.382	-0.418			-0.134	-0.228	-0.268
			(2.081)	(2.124)	(2.137)			(1.208)	(1.224)	(1.232)
Livestock market			0.0656	-0.506	-0.534			-10.21	-12.30	-10.94
			(0.991)	(0.976)	(0.991)			(10.29)	(9.806)	(9.635)
Crop market			0.677	0.624	0.643			-5.784	-6.392	-6.280
			(0.696)	(0.671)	(0.685)			(5.918)	(6.087)	(6.039)
Health facility			0.475	0.435	0.494			-3.320	-3.541	-3.283
			(2.421)	(2.450)	(2.474)			(2.901)	(2.993)	(2.677)
Social networks										
Farmers' group				-0.0505	-0.0466				0.673***	0.670***
				(0.161)	(0.161)				(0.143)	(0.143)
Livestock association				-0.0495	-0.105				0.240	0.187
				(0.647)	(0.654)				(0.589)	(0.597)
Farmer/Pastoral Field School				0.0192	0.0227				-0.171	-0.163
				(0.127)	(0.128)				(0.149)	(0.149)
Women group				-0.00916	0.00285				0.191	0.210
				(0.311)	(0.306)				(0.265)	(0.265)
Community police group				0.714***	0.727***				0.188	0.209
				(0.169)	(0.170)				(0.175)	(0.175)
Constant	-1.381***	-1.527***	-1.531***	-1.498***	-1.489***	-0.181	-0.281	-0.242	-0.283	-0.288
	(0.269)	(0.295)	(0.299)	(0.299)	(0.302)	(0.214)	(0.250)	(0.253)	(0.257)	(0.257)
County dummies	yes	yes	Yes	yes	yes	yes	yes	yes	yes	yes
Observations	1 820	1 820	1 820	1 820	1 820	1 896	1 896	1 896	1 896	1 896

Notes: Due to multicollinearity, 130 observations have been dropped when the outcome is food assistance and 54 when the outcome is input assistance. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Source: Author's own elaboration.

Interestingly, the effect of social norms becomes stronger and more precise when the two types of assistance are analyzed separately. Household members participating in farmers' groups are more likely to receive inputs for agriculture and livestock (columns 9 and 10) while food assistance is more likely to be received by household members participating in community police groups (columns 4 and 5). This could indicate local elite capture of assistance and consequent misdirection.

7 Conclusions

This paper offers a contribution to the scarce literature on the assistance in chronic conflict-affected areas by employing one of the few household survey available from South Sudan, to the best of our knowledge. The remoteness of the investigated areas, together with the unstable and insecure situation, dramatically impoverished the number of solid quantitative databases at household level. FAO managed to collect the data in some of the most fragile and conflict prone regions of South Sudan, such as Eastern Equatoria and Jonglei. The data collection was made possible thanks to the efforts of national and international experts who spent significant periods of time in the field.

This paper shows that, controlling for county level heterogeneity, the households who received less assistance, both food aid and inputs, are those living in areas where the conflicts have been more intense. In other words, those who live in the areas most affected by conflicts, received less support. The size of international humanitarian assistance to South Sudan is relevant: the Humanitarian Response Plan 2019 partners provided USD 123 million for cash transfer projects (UNOCHA, 2019), or some 8 percent of total 2019 requirements (UNUNOCHA, 2018). Unfortunately, if the amount allocated is not delivered to the right beneficiaries, it largely fails its objective. This paper investigates whether this occurred or not.

However, and contrary to the literature, in our work we do not find evidence supporting the lack of accessibility as one of the main drivers of the assistance received. This is a counter-intuitive finding, considering that about 1.5 million people live in areas facing high levels of access constraints – places where armed hostilities, violence against aid workers and destruction of assets, and other access impediments render humanitarian activities severely restricted, or in some cases impossible (UNOCHA, 2018). More than 500 aid workers were relocated in South Sudan during 2018 due to insecurity, disrupting the provision of lifesaving assistance and protection services to people in need for prolonged periods. However, the evidence provided by our dataset do not suggest accessibility as one of the main causes. In other words, the assistance arrived in the right areas but partially failed in being delivered to the right people.

Further investigations show that households participating in farmers' and community police groups are more likely to receive assistance with respect to households less connected to these types of social networks. In particular, we find evidence that households belonging to farmers groups more easily access in-kind transfers; while those that are most strictly involved in community police groups are most likely to benefit from food assistance. As stated in Barret (2002), nature may not discriminate among people, but intermediating social and economic institutions certainly do. Having access to social security systems guarantees entitlements to formal and informal assistance and the most vulnerable generally have the least access to financial markets and social reciprocity networks. This seems to be confirmed by our analysis.

While these findings cannot be considered as absolute, we consider our contributions helpful for both the academic literature on conflict, and humanitarian response mechanisms.

To address this issue (i.e. that parties to the conflict may divert resources intended for humanitarian purposes and use them to fuel the conflict), potential solutions have been proposed and adopted. In conflict context, cash transfer is preferable as it is more secure and less liable to interference and (possibly) access issues. There are of course other risks: notably theft, diversion, corruption, security, targeting, misuse by beneficiaries, inflationary effects – though the evidence is that these risk materializing in practice is very limited. Cash Transfers apply equally well in situations of armed conflict, increasing people's dignity, power, autonomy

and choice in how they manage their survival and recovery. Cash can be easily moved to reach remote households. Modern technologies enable the use of money transfers that can be directly delivered to normatively decided beneficiaries. In fact, while bank accounts are not so frequent in remote areas, airtime is dramatically spread over the most remote and inaccessible areas. The ICRC has increased its use of cash and vouchers in recent years and is very encouraged by the clear benefits of cash transfer programming in certain situations (ICRC 2018). In the Uganda refugee settlements mobile cash is a reliable way to ensure the right targeting and the effective delivery (Meagher *et al.*, 2018). In Kenya, mobile cash transfers are secure and cost-effective, enable a quick emergency response, respect people's choices, and empowered communities (ODI, 2008). In general, there is confidence that this new approach can reduce corruption and increase confidence that the right amount of money ends up with the right individuals (Martin, 2011). The successful use of cash in contexts such as Afghanistan, Pakistan, Somalia, Democratic Republic of Congo, Syria and Chechnya demonstrate that these risks can be successfully mitigated, allowing programs to be implemented effectively (Harvey and Bailey, 2011). Considering the local economic system, providing cash-based assistance (through mobile money, smart cards, etc.) facilitates beneficiaries' access to financial services (credit, savings and transfers) and payment systems, allowing them to become active participants in financial systems. Programme evaluations have shown significant reductions in theft through use of *e-transfers*, while the privacy they afford makes them popular with beneficiaries (Sossouvi, 2013). The 2016 World Humanitarian Summit and this High Level Panel on Humanitarian Cash Transfers advised that, where possible, cash has to be delivered digitally and in a manner that furthers financial inclusion. This does not come without drawbacks. Among the others, a minimum literacy/education is required; there are limitations due to network connectivity and agent coverage; there may be limited access to shops for particularly vulnerable groups (elderly, disabled, specific ethnic groups, etc.).

On a different perspective, not only assets but also services can be disrupted by the conflict events. As stressed by Justino (2012), there is still limited evidence of conflict impact on the operationalization and access to local markets. Nevertheless, markets accessibility may affect not only the income-generating activities but also inputs distribution by both national and international organizations. This could facilitate inputs distribution towards the areas less affected by violence and with functioning markets. Therefore, it is logical to posit that combined interventions should be promoted, such as distribution of inputs plus rehabilitation of local markets and services. This would attract the distribution of agricultural inputs in the areas most affected by the conflict and avoid the isolation of beneficiaries living in areas with disrupted markets.

Our paper demonstrates that the provided assistance did not reach the most in need populations. We believe that assistance did not reach the right people because of the lobbying pressure of existing groups who are able to monopolize the resources. This dramatically affects the capacity of humanitarian response to deliver the assistance to those most in need. We cannot exclude the possibility that incorrect targeting may have affected the delivery of assistance; and this could only be explored using panel data.

Figure A1. Conflict with fatalities intensity index by county, 2016

Conflict with fatalities index 2016
- (8.17 – 11.93]
- (6.60 – 8.17]
- (2.94 – 6.60]
- [1.53 – 2.94]
- No data
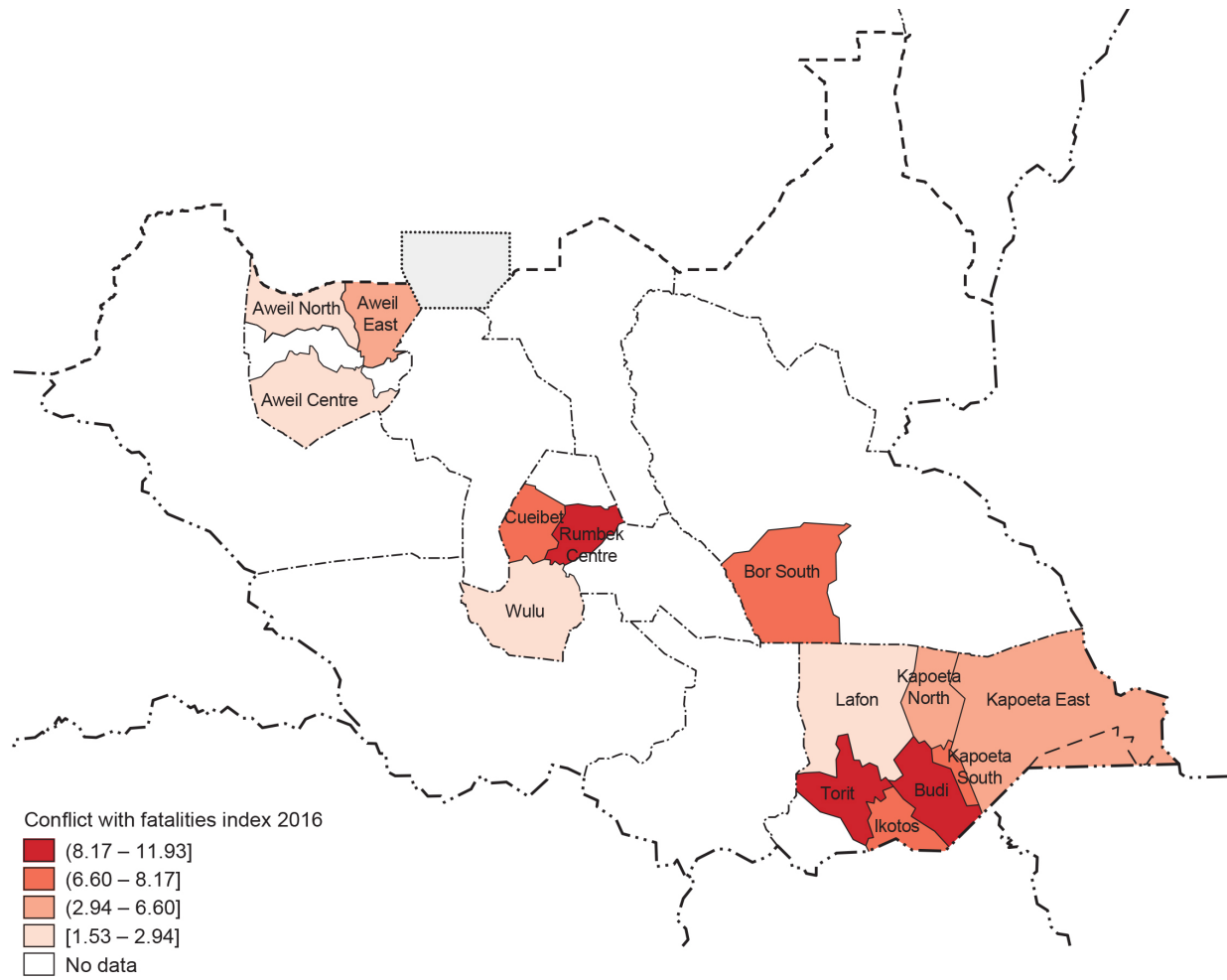
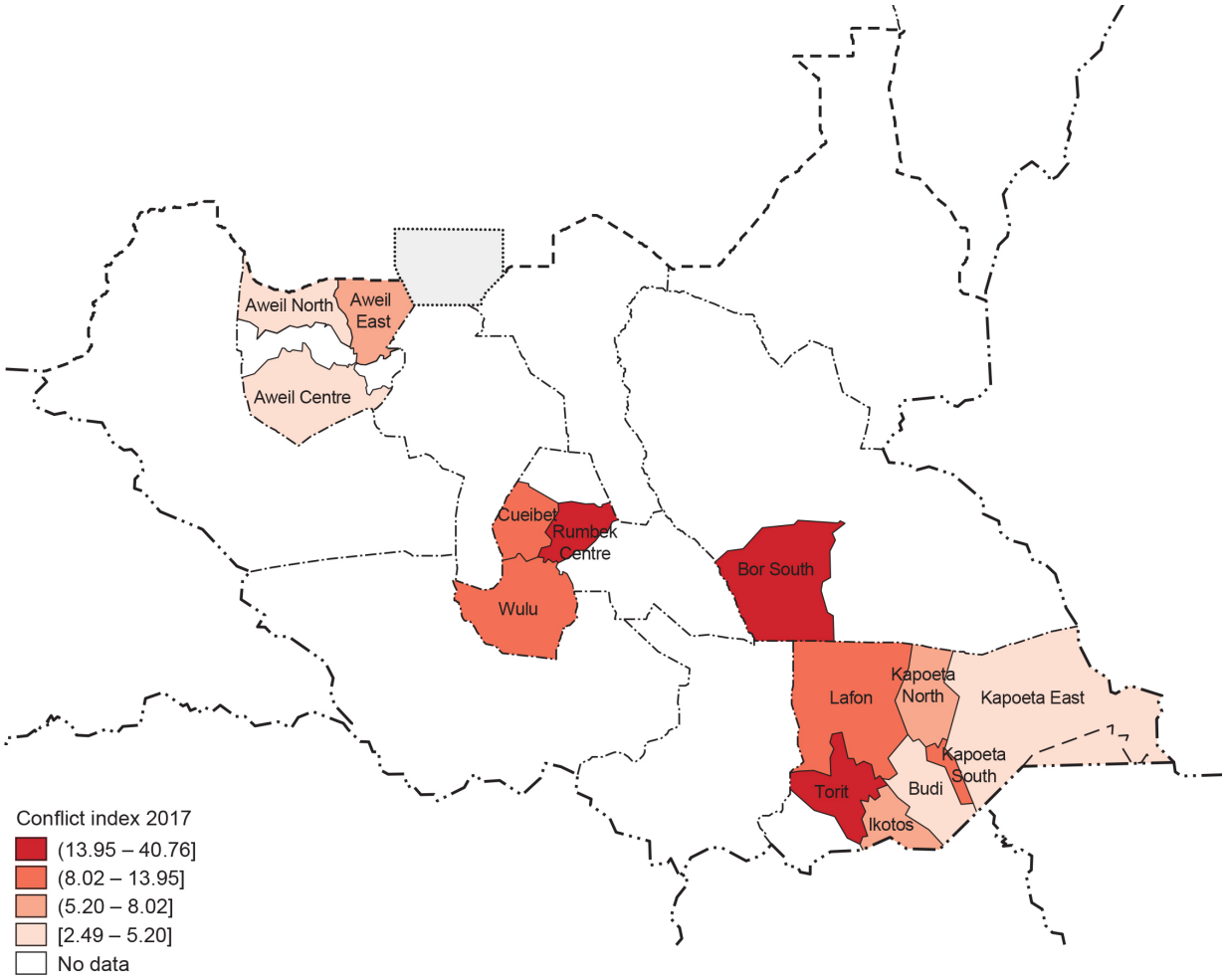Source: Conforms to United Nations, South Sudan, Map No. 4450 Rev.1.1, October 2011.

Figure A2. Conflict intensity index by county, 2017

Source: Conforms to United Nations, South Sudan, Map No. 4450 Rev.1.1, October 2011.

Table A1. Summary statistics

Variable	Description	Obs.	Mean	Std. Dev.	Min	Max
Assistance						
Formal assistance	= 1 if received formal assistance: cash, food, and productive inputs	1 950	0.331282	0.470795	0	1
Food assistance	= 1 if received formal food assistance	1 950	0.169231	0.375052	0	1
Inputs for agriculture and livestock	= 1 if received formal agriculture inputs and livestock	1 950	0.201026	0.40087	0	1
Conflict exposure						
2016 Conflict index	Conflict intensity index calculated using all the ACLED events of 2016	1 950	11.61382	5.813718	0	27.94193
2016 Conflict with fatalities index	Conflict intensity index calculated using the ACLED events of 2016 with fatalities	1 950	6.882996	3.077494	0	14.76911
2017 Conflict index	Conflict intensity index calculated using all the ACLED events of 2017	1 950	15.75831	11.98452	0	42.70467
Self-reported conflict exposure	Self-reported indicator of conflict exposure	1 950	0.264615	0.594769	0	4
Socio-demographics						
Household size	Number of household members	1 950	5.427692	2.207467	1	19
Female head	= 1 if the household head is female	1 950	.8041026	.3969918	0	1
Share of active members	Ratio of active household members (>15 and <64 years old) over the non-active members (<15 and >64 years old)	1 950	1.284767	1.146903	0.142857	9
Average education	Average years of education of the household members	1 950	1.865599	2.375465	0	16.33333
Welfare variables						
Wealth index	Index constructed from number of wealth assets (car, mobile, solar heater etc.) owned by the household	1 950	0.079967	0.059803	0	1
Land	Agricultural land (hectares) owned by the household in per capita terms. It is expressed as per capita	1 950	0.1278554	0.191475	0	2.625
Tropical Livestock Unit (TLU)	TLU standardizes different types of livestock into a single unit of measurement. The conversion factor adopted is: 0.7 camel; 0.5 cattle; 0.3 donkeys/ mules; pigs 0.2; 0.1 sheep/goats; 0.01 chickens. It is expressed as per capita	1 950	0.2553896	0.713316	0	6.375
Closeness						
Closeness to primary school	Distance in Km to reach the nearest school is transformed into a closeness index through a (min–max) re-scaling where 1 corresponds to zero distance in minutes and 0 to the maximum distance in Km.	1 950	0.006917	0.035598	0	1
Closeness to livestock market	Distance in Km to reach the nearest livestock market is transformed into a closeness indicator through a (min–max) re-scaling where 1 corresponds to zero distance in minutes and 0 to the maximum distance in Km.	1 950	0.003086	0.028341	0	1
Closeness to crop market	Distance in Km to reach the nearest crop market is transformed into a closeness index through a (min–max) re-scaling where 1 corresponds to zero distance in minutes and 0 to the maximum distance in Km.	1 950	0.005223	0.047294	0	1
Closeness to health facility	Distance in Km to reach the nearest health facility is transformed into a closeness index through a (min–max) re-scaling where 1 corresponds to zero distance in minutes and 0 to the maximum distance in Km.	1 950	0.001442	0.02607	0	1

Variable	Description	Obs.	Mean	Std. Dev.	Min	Max
Social networks						
Farmers' group	= 1 if household members participate in farmers' groups	1 950	.1246154	.330367	0	1
Livestock association	= 1 if household members participate in livestock associations	1 950	.0025641	.050585	0	1
Farmer/Pastoral Field School	= 1 if household members participate in Farmer Field Schools or Pastoral Field Schools	1 950	.1194872	.3244441	0	1
Women group	= 1 if household members participate in women associations	1 950	.0174359	.1309224	0	1
Community police group	= 1 if household members participate in community policy groups	1 950	.0820513	.2745132	0	1
County dummies						
Aweil Centre	= 1 for living in the county	1 950	0.011795	0.10799	0	1
Aweil East	= 1 for living in the county	1 950	0.02718	0.162648	0	1
Aweil North	= 1 for living in the county	1 950	0.027692	0.164132	0	1
Bor South	= 1 for living in the county	1 950	0.168718	0.374599	0	1
Budi	= 1 for living in the county	1 950	0.066667	0.249508	0	1
Cueibet	= 1 for living in the county	1 950	0.066154	0.248615	0	1
Ikotos	= 1 for living in the county	1 950	0.116923	0.321411	0	1
Kapoeta East	= 1 for living in the county	1 950	0.04718	0.212077	0	1
Kapoeta North	= 1 for living in the county	1 950	0.097949	0.297322	0	1
Kapoeta South	= 1 for living in the county	1 950	0.02718	0.162648	0	1
Lopa/Lafon	= 1 for living in the county	1 950	0.088718	0.284409	0	1
Rumbek Centre	= 1 for living in the county	1 950	0.049231	0.216405	0	1
Torit	= 1 for living in the county	1 950	0.153846	0.360894	0	1
Wulu	= 1 for living in the county	1 950	0.050769	0.219582	0	1

Source: Author's own elaboration.

Table A2. Determinants of formal assistance

			Formal assistance		
	(1)	(2)	(3)	(4)	(5)
Conflict indicators					
2016 Conflict with fatalities index	-0.0675**	-0.0573**	-0.0584**	-0.0562**	-0.0609**
	(0.0263)	(0.0267)	(0.0268)	(0.0268)	(0.0270)
Self-reported conflict exposure					-0.160**
					(0.0626)
Household characteristics					
Household size	-0.0383**	-0.0282*	-0.0288*	-0.0323*	-0.0309*
	(0.0161)	(0.0166)	(0.0166)	(0.0167)	(0.0167)
Share of active members	0.0148	0.0219	0.0230	0.0259	0.0284
	(0.0294)	(0.0296)	(0.0298)	(0.0300)	(0.0303)
Average education	0.00335	0.00739	0.00758	0.00551	0.00691
	(0.0149)	(0.0154)	(0.0154)	(0.0155)	(0.0156)
Female head	-0.195**	-0.174*	-0.173*	-0.189**	-0.171*
	(0.0895)	(0.0911)	(0.0911)	(0.0930)	(0.0934)
Welfare variables					
Wealth index		-0.497	-0.487	-0.409	-0.360
		(0.562)	(0.561)	(0.563)	(0.573)
Land		0.373**	0.364**	0.342*	0.336*
		(0.179)	(0.179)	(0.179)	(0.178)
Tropical Livestock Unit		0.303***	0.302***	0.295***	0.297***
		(0.0545)	(0.0546)	(0.0551)	(0.0553)
Closeness indicators					
Primary school			-1.030	-1.123	-1.160
			(1.207)	(1.223)	(1.224)
Livestock market			0.298	0.139	0.136
			(1.006)	(1.009)	(0.997)
Crop market			-0.231	-0.330	-0.311
			(0.738)	(0.739)	(0.761)
Health facility			-0.0696	0.0619	0.0705
			(1.582)	(1.598)	(1.606)
Social networks					
Farmers' group				0.247*	0.247*
				(0.138)	(0.138)
Livestock association				0.210	0.118
				(0.600)	(0.606)
Farmer/Pastoral Field School				0.00684	0.0163
				(0.127)	(0.127)
Women group				-0.0474	-0.0304
				(0.274)	(0.269)
Community police group				0.290*	0.316**
				(0.154)	(0.154)
Constant	-0.0402	-0.275	-0.252	-0.260	-0.263
	(0.197)	(0.218)	(0.220)	(0.220)	(0.221)
County dummies	yes	yes	Yes	yes	yes
Observations	1 950	1 950	1 950	1 950	1 950

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

Source: Author's own elaboration.

Table A3. Determinants of formal assistance

	Formal assistance				
	(1)	(2)	(3)	(4)	(5)
Conflict indicators					
2017 Conflict index	-0.0248***	-0.0226**	-0.0235***	-0.0237***	-0.0248***
	(0.00909)	(0.00905)	(0.00910)	(0.00912)	(0.00920)
Self-reported conflict exposure					-0.159**
					(0.0624)
Household characteristics					
Household size	-0.0383**	-0.0281*	-0.0289*	-0.0324*	-0.0309*
	(0.0160)	(0.0165)	(0.0165)	(0.0166)	(0.0167)
Share of active members	0.0150	0.0222	0.0234	0.0264	0.0289
	(0.0294)	(0.0297)	(0.0298)	(0.0301)	(0.0304)
Average education	0.00442	0.00830	0.00858	0.00647	0.00794
	(0.0148)	(0.0153)	(0.0153)	(0.0155)	(0.0156)
Female head	-0.185**	-0.166*	-0.165*	-0.182*	-0.163*
	(0.0893)	(0.0908)	(0.0908)	(0.0928)	(0.0933)
Welfare variables					
Wealth index		-0.493	-0.483	-0.418	-0.369
		(0.560)	(0.558)	(0.561)	(0.572)
Land		0.371**	0.362**	0.337*	0.331*
		(0.179)	(0.179)	(0.179)	(0.178)
Tropical Livestock Unit		0.304***	0.303***	0.295***	0.297***
		(0.0541)	(0.0541)	(0.0547)	(0.0548)
Closeness indicators					
Primary school			-1.152	-1.255	-1.299
			(1.208)	(1.225)	(1.228)
Livestock market			0.347	0.195	0.186
			(0.989)	(0.989)	(0.985)
Crop market			-0.306	-0.409	-0.394
			(0.740)	(0.742)	(0.764)
Health facility			-0.0319	0.0933	0.112
			(1.577)	(1.593)	(1.601)
Social networks					
Farmers' group				0.254*	0.254*
				(0.138)	(0.138)
Livestock association				0.216	0.126
				(0.591)	(0.597)
Farmer/Pastoral Field School				0.0203	0.0308
				(0.127)	(0.127)
Women group				-0.0484	-0.0309
				(0.274)	(0.269)
Community police group				0.302*	0.328**
				(0.154)	(0.154)
Constant	0.0905	-0.145	-0.111	-0.108	-0.112
	(0.214)	(0.233)	(0.235)	(0.235)	(0.237)
County dummies	yes	yes	Yes	yes	yes
Observations	1 950	1 950	1 950	1 950	1 950

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

Source: Author's own elaboration.

References

Barret, C. 2002. Food Security and Food Assistance Programs. *Handbook of Agricultural Economics*, 2(Part B): 2103–2190.

Bozzoli, C., Brück, T. & Muhumuza, T. 2011. Does war influence individual expectations? *Economics Letters*, 113(3): 288–291.

Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development (IFAD), United Nations Children's Fund (UNICEF), World Food Programme (WFP) & World Health Organization (WHO). 2017. *The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security*. Rome, FAO.

FAO, IFAD, UNICEF, WFP & WHO. 2018. The State of Food Security and Nutrition in the World 2018. Building climate resilience for food security and nutrition. Rome, FAO.

FAO, IFAD, UNICEF, WFP & WHO. 2019. The State of Food Security and Nutrition in the World 2018. Safeguarding against economic slowdowns and downturn. Rome, FAO.

Fearon, J.D., Humphreys, M. & Weinstein, J.M. 2009. Can development aid contribute to social cohesion after civil war? Evidence from a field experiment in post-conflict Liberia. *American Economic Review: Papers & Proceedings*, 99(2): 287–291.

Gebreyes, Y.A., Lemma, G.B, Deng, L.B. & Abdullahi, S. 2016. *The impact of conflict on the livestock sector in South Sudan.* Juba, South Sudan, FAO.

Government of the Republic of South Sudan (GRSS). 2013. *National Livestock Policy in South Sudan.* Ministry of Animal Resources and Fisheries. Juba

Harmer, A., Stoddard, A. & Sarazen, A. 2018. Humanitarian access in armed conflict: a need for new principles? Final Report.

Harvey, P. 2007. *Cash based Responses in Emergencies.* Humanitarian Policy Group Report n. 24. London, Overseas Development Institute (ODI).

Harvey, P. & Bailey, S. 2011. *Cash transfer programming in emergencies*. Good Practice Review, Number 11. London, ODI and UK Aid.

Hofmann, C.A. 2005. Cash Transfer Programmes in Afghanistan: A Desk Review of Current Policy and Practice. Humanitarian Policy Group Background Paper. London, ODI.

Holmes, R. 2009. *Cash Transfers in Post-Conflict Contexts*. ODI Project Briefings n. 32, London, ODI.

Holmes, R. & Jackson, A. 2007. Cash Transfers in Sierra Leone: Appropriate, Affordable and Feasible? London, ODI.

International Council of Red Cross (ICRC). 2018. Cash Transfer Programming in Armed Conflict: The ICRC's Experience. Geneva.

Jacob, A. & Nemat, O. 2108. Politics over evidence: questioning the link between service delivery and legitimacy in Afghanistan. Briefing paper 29. London, Secure Livelihood Research Consortium, ODI.

Justino, P. 2012. War and poverty. In M.R. Garfinkel & S. Skaperdas, eds. *The Oxford Handbook of the Economics of Peace and Conflict*. New York, USA, Oxford University Press.

Kremer, M. & Gugerty, M.K. 2008. Outside Funding and the Dynamics of Participation in Community Associations. *American Journal of Political Science*, 52 (3): 585–602.

Meagher, P., Malik, A.A, Mohr, E. & Irvinv-Erickson, Y. 2018. *High-tech humanitarians. Airtel Uganda's Partnership with DanChurchAid*. Research report. Centre on International Development and Governance. Washington, DC, Urban Institute.

Martin, C. 2011. Cash Transfers and Mobile Money: Making it Work. In: *Consultative Group to Assist the Poor (CGAP)* [online]. Washington, DC. [Cited 23 October 2019]. www.cgap.org/blog/cash-transfers-and-mobile-money-making-it-work

Mattinen, H. & Ogden, K. 2006. Cash-based Interventions: Lessons from Southern Somalia. *Disasters*, 30(3): 297–315.

Maxwell, D., Gelsdorf, K. & Santschi, M. 2012. *Livelihoods, basic services and social protection in South Sudan*. Working Paper 1, Secure Livelihoods Research Consortium (SLRC).

Miguel, E. 2007. Poverty and Violence: An Overview of Recent Research and Implications for Foreign Aid. In L. Brainard & D. Chollet, eds. *Too Poor for Peace? Global Poverty, Conflict and Security in the 21st Century*, pp. 50–59. Washington, DC, Brookings Institution Press.

ODI. 2008. Mobile phone-based cash transfers: lessons from the Kenya emergency response. In: *Humanitarian Practice Network (HPN)* [online]. [Cited 23 October 2019]. https://odihpn.org/magazine/mobile-phone-based-cash-transfers-lessons-from-the-kenya-emergency-response/

Post, D. 2008. *CDD and elite capture reframing the conversation*. Social Development how to series, vol. 3. Washington, DC, World Bank.

Raleigh, C., Linke, A., Hegre, H. & Karlsen, J. 2010. Introducing ACLED: an armed conflict location and event dataset: special data feature. *Journal of Peace Research*, 47(5): 651–660.

Slater, R., Merry, E., Tan de Bibiana, M. & Jang, S. 2016. *Service delivery in fragile settings.* Forum Policy Brief n. 12. Stockholm Forum on Security and Development 2016. Stockholm, Stockholm International Peace Research Institute (SIPRI).

Sossouvi, K. 2013. *E-transfers in emergencies: Implementation support guidelines*. Cash Learning Partnership.

Tranchant, J.P., Gelli, A., Bliznashka, L., Diallo, A. S., Sacko, M., Assima, A., Siegel, E., Aurino, E. & Masset, E. 2018. The impact of food assistance on food insecure populations during conflict: Evidence from a quasi-experiment in Mali. *World Development*, 119: 185–202.

United Nations High Commissioner for Refugees (UNHCR). 2017. *Global trends: Forced displacement in 2016.* Geneva.

UNHCR. 2018a. *2018 Planning summary. Operation: South Sudan*. UNHCR Global Focus.

UNHCR. 2018b. Global trends forced displacement in 2018. In: *UNHCR* [online]. Geneva. [Cited 29 January 2019]. www.unhcr.org/globaltrends2018

United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA). 2018. South Sudan. In: *Humanitarian Response* [online]. [Cited 23 October 2019]. www.humanitarianresponse.info/en/operations/south-sudan

UNOCHA. 2019. *Humanitarian Response Plan, January-December 2019. South Sudan.*

Willibald, S. 2006. Does Money Work? Cash Transfers to Ex-Combatants in Disarmament, Demobilization and Reintegration Processes. *Disasters*, 30(3): 316–339.

World Bank. 2017. Forcibly displaced: Toward a development approach supporting refugees, the internally displaced, and their hosts.

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