Armed conflicts and food insecurity- a short literature review

Eric Dago

July 2021

Acknowledgement: this research has been supported by the A4NH Food System for Healthier Diets – CG-French partnership grant

Suggested citation: Dago E. (2021). Armed conflicts and food insecurity- a short literature review. INRAe, CIRAD, CIAT, Montpellier, mimeo, 14 p.

Armed Conflict and Food Insecurity

1. Introduction

Food insecurity affects the lives of millions of people across the world. According to the 2021 Global Report on Food Crises, at least 155 million people in 55 countries/territories were in Crisis or worse (IPC/CH Phase 3 or above) in 2020, an increase of around 20 million people from 2019 (FSIN, 2021). In addition, this report highlights that globally, 15.8 million children are wasted and 75.2 million are stunted. Conflict and political instability are indexed as one of the major drivers of food insecurity, as out of the 155 million in acutely food insecure, 100 million live in conflict-affected countries[1] (FSIN, 2021, 2021; Tranchant et al., 2019; FSIN, 2018). For example, protracted conflicts were at the root of six of the 10 worst food crises – in the Democratic Republic of the Congo, Yemen, Afghanistan, the Syrian Arab Republic, Nigeria (15 states and federal capital territory) and South Sudan – with the number of internally displaced people (IDPs) increasing in all six countries in 2020 (FSIN, 2021). In addition, some countries such as Burkina Faso, South Sudan and Yemen, that had populations in food disaster were affected by conflict/insecurity. In fact, food insecurity itself can become a trigger for violence and instability, particularly in contexts marked by pervasive inequalities and 'fragile institutions'[2]. Similarly, sudden spikes in food prices tend to exacerbate the risk of political unrest and conflict (see FAO et al., 2017).

Overall, these facts indicate that the cost of armed conflict goes far beyond the loss of lives and the destruction of physical capital (Tusiime et al., 2013). It is estimated that only 20% of excess mortality comes from direct deaths from war violence (Altare and Guha Sapir, 2013). Technically, the definition of armed conflict widely used in the social sciences is the one developed by the Uppsala Conflict Data Program (Wallensteen 1988; Heldt 1993). An armed conflict is a "contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related[3] deaths in one calendar year". The UCDP definition of armed conflict in this sense delimits "state-based conflict or intrastate"[4] from "Interstate conflict" which is conflict between countries. At the global level, the predominant form of conflict is civil conflict. Globally, the predominant form of conflicts is civil conflicts (intrastate). Their number has increased markedly, particularly since the 1970s due to the rapid emergence of several factors at both international and national levels (UCDP/PRIO, 2019; Cilliers, 2015). Their onset, intensity and duration are the result of the overlapping of several factors including cultural, social, political, military and geopolitical (see Hugon, 2006). Specifically, the main drivers of civil conflicts include ethnic and religious differences, discrimination and marginalization, poor governance, limited state capacity, population pressure, rapid urbanization, poverty and youth unemployment (FAO, 2017). Moreover, it should be noted that, armed conflict remains the primary driver of

[1] Beyond armed conflicts the factors such as weather extremes, and economic shocks, including COVID-19-related economic effects are the others drivers of acute food insecurity (FSIN, 2021).
[2] The fragility of states has five dimensions: violence, justice, institutions, economic foundations and resilience (OECD, 2015)
[3] A distinction must be made between wars and conflicts. Wars have more than 1,000 battle-related deaths (BRDs) per year, while minor conflicts have between 25 and 1,000 BRDs (Wallensteen 1988; Heldt 1993).
[4] Furthermore, the UCDP makes the difference between "state-based conflict" and "non-state conflict" which is the use of armed force between organized groups, neither of which is the government of a state, resulting in at least 25 annual battle-related deaths.

terrorism. According to the UN, more than 99% of all victims of terrorism die in countries exposed to violent conflict or high levels of political terrorism and the majority of deadly attacks occur in the Middle East, North Africa, Sub-Saharan Africa, Afghanistan, Iraq, Nigeria, Somalia, and Syria (UN, 2020). In the rest of this article, we will use the term armed conflict or civil conflict.

Measuring armed conflict is a challenging task that requires gathering reliable data to effectively gauge its appropriateness and validity in formulating relevant indicators (Brück and Marco d'Errico, 2019). In recent years, several large-scale data collection projects have produced georeferenced, disaggregated events-level conflict data which can aid researchers in studying the microlevel dynamics of civil conflict (EK, 2012). Among them, Uppsala Conflict Data Program (UCDP/PRIO) database and the Armed Conflict Location & Event Data Project (ACLED) database are the most used. The measures and categories developed by the UCDP/PRIO have become a standard metric of conflict at the national level and widely used in the social sciences (Martin-Shields and Stojetz, 2019; Croicu & Sundberg, 2017). These measures and categories are based on "event"[5] i.e. an individual incident (phenomenon) of lethal violence occurring at a given time and place (Croicu et Sundberg, 2017). Another database and the most famous, increasingly used by the academics and development actors for measuring armed conflicts is ACLED database. The Armed Conflict Location & Event Data Project (ACLED) is a disaggregated data collection. ACLED collects the dates, actors, locations, fatalities, and types of all reported political violence and protest events. As UCDP/PRIO database, the unit of observation in ACLED is the "event". It should be mentioned that while UCDP/PRIO and ACLED dataset are a positive development for measuring armed conflict, some caveats are raised in relation to both datasets including their reliance on media sources. EK, 2012 provides some guidelines as to when these datasets should be used and when they should be avoided: those interested in sub-national analyses of conflict should be wary of ACLED's data due to uneven quality-control issues which can result in biased findings if left unchecked by the researcher. Finally, those interested in non-violent events such as troop movements have only ACLED to choose from since UCDP has not coded such data, but again warns researchers to be wary of the quality of the data. On the other hand, it is worth mentioning that, increasingly, household or individual surveys within conflict-stricken countries which seek to address individual- level factors to explain the causes and outcomes of civil war (Blattman, 2010; Humphreys and Weinstein, 2008).

Whatever the case may be, most of indicators used in empirical literature are: direct conflict deaths (number of death), the number of conflict events, number of conflict-related injuries per year per 100,000, victimization violence (sexual and gender-based violence is the most prevalent of violent victimizations), displacement/resettlement related to the conflict, number of child soldiers/children involved in armed conflict, perceptions of safety etc. On the other hand, the presence of armed groups in a given area can be used as conflict indicator. In fact, households living in rebel-held territories may suffer from the range of indirect impacts of the conflict including the withdrawal of the state apparatus (not always replaced by rebel governance), absence of NGOs and aid system, fear and inability to travel to the market or towns even in the absence of exposure to direct violence (Tranchant et al., 2019). This is explained by Kalyvas (2006) who argues that violent conflict is most likely to occur in contested areas between state and rebel forces and least likely to occur in areas firmly under the control of either factions.

[5]"Event" is defined as an incident where armed force was by an organized actor against another organized actor, or against civilians, resulting in at least 1 direct death at a specific location and a specific date

The armed conflicts impact can occur simultaneously and/or with a time lag such that there are compounding effects on food consumption and health (morbidity and mortality patterns), including on the four dimensions of food security (availability, access, utilization and stability), the individual caring practices, health services and a healthy living environment (See FAO, 2017). Specifically, the armed conflicts undermine food security in multiple ways: it directly destroys crops, livestock, agricultural infrastructure and assets, but it also disrupts food supply chain and local food markets, induces displacement, creates fear and uncertainty about meeting future needs, damages human capital, and contributes to the spread of disease (Corley, 2021; Adelaja & George, 2019; Martin-Shields and Stojetz, 2019; Tranchant et al.,2019; Minoiu & Shemyakina, 2014, Justino, 2012). Indirectly by threatening the food security of the household including disruptions to food systems and markets, leading to increased food prices or decreased household purchasing power, or access to water and fuel for cooking can be reduced (see Bar-Nahum et al., 2020; FAO, 2017; D'Souza and Jolliffe 2013; Ihle and Rubin 2013; Justino, 2009), as well as increases in transaction costs caused by difficulties in accessing exchange markets when roads, train lines and other infrastructure is destroyed (Justino, 2012).

These negative effects spread on food preparation, feeding practices and food allocation within the household. Béné, 2020 shows that when shocks or stressors including armed conflicts occur, this generally results in physical and economic disruptions of the food supply operations - leading to food shortage, food losses, or price volatility in both rural and urban areas, with short term and long-term implications for both chronic and acute hunger and malnutrition.

Beyond the effects of the armed conflicts widely highlighted in the literature, the identification of the mechanisms linking conflict exposure to food insecurity and malnutrition, however, remains unclear in the empirical literature (Tranchant et al.,2019; Martin-Shields and Stojetz, 2019). Tranchant et al.,2019 argue that more systematic evidence is needed, especially in contexts of low to moderately violent conflicts even if several potential mechanisms underlying the impact of armed conflicts have been identified in the literature. In fact, they show that conflicts of low to moderate intensity, which do not kill a substantial number of civilians, can still be responsible for catastrophic increases in undernutrition. In other words, studies by Tranchant et al.,2019 and Martin-Shields and Stojetz, 2019 teach us that a better understanding of the mechanisms linking conflict and food insecurity requires a monitoring of food insecurity in conflict-affected areas. This to help evidence-based interventions from local, national and international practitioners and policymakers.

The empirical economic literature on the relationship between armed conflict and food insecurity is extensive and diverse. The understanding of the relationship between food security and armed conflict is hampered by severe "endogeneity" challenges and measurement. Martin-Shields and Stojetz (2019) argue that structural factors at both the macro- and micro-levels, e.g. state capacity and household income, are often correlated with both food security and conflict outcomes. These "confounding" factors thus complicate causal analyses of the mechanisms linking conflict and food security. Regarding the definition of the food security, it emerged at the World Food Summit (1996). Food security is defined as food access, availability, food use, and stability. More specifically, for people to be food secure, food must be both consistently available and accessible in sufficient quantities and diversity and households must be able to utilize (store, cook, prepare and

share) the food in a way that has a positive nutritional impact (FSIN, 2021). Over time the analysis of food insecurity has emerged as a social and political construct rather than an analysis of the link between food security, starvation, and crop failure (Devereux, 2003). However, the quantitative measurement of food security still suffers from methodological challenges (Maxwell & Coates, 2014; Migotto, Davis, Carletto, & Beegle, 2005; Scaramozzino, 2006; Wiesmann, Bassett, Benson, & Hoddinott, 2009). Dabalen and Paul, 2014 argue that the standard practice has been to gather information on food consumption or expenditure data over a recall period while Deaton, 1997 and Gibson, 2005 show that indicators such as calorie availability at the household level during the last week and dietary energy indicator computed, based on the amounts of all foods an individual consumed in the previous 24 h are used to obtain information on household level consumption of food.

A number of micro-level studies investigate the impacts of conflict on food insecurity using household level and conflict data (Martin-Shields and Stojetz, 2019). It is well established that exposure to armed conflict events significantly shape household food security including their ability to cope with shocks and to smooth income and consumption (George et al., 2021; Martin-Shields and Stojetz, 2019; Tranchant et al.,2019). In conflict-affected countries, many households and firms are smallholder farmers, who face a high degree of income uncertainty even in the absence of conflict, primarily through weather shocks (Townsend, 1994, Maccini and Yang, 2009). Some are commodity suppliers to local, domestic or global markets, such as farmers, transporters/distributors or retailers/vendors who are also subject to price fluctuations in these markets. As Martin-Shields and Stojetz (2019) point out, conflict presents an additional 'shock' that affects the livelihoods and well-being of these actors. Two important points are apparent. First, the nature of this 'shock' may be quite diverse across different types and intensities of armed conflict and across the national and local institutions that are either transformed or emerge during this armed conflict (see also Justino (2012)). Second, exposure to conflict may directly shape food security, but also interact with other fluctuations, such as those in prices and climatic conditions. In all cases, the impact of conflict on food security can be analyzed at three levels: agricultural production, coping and consumption and nutritional status. Findings from empirical literature increasingly suggest that conflict adversely affects agricultural production, coping and consumption and nutritional status (George et al., 2021; Le and Nguyen, 2020; Brück and Marco d'Errico, 2019; Serneels and Verpoorten, 2015; Tusiime et al., 2013).

2. The impact of armed conflict on agricultural production

A large body of studies have been carried out to evaluate how agriculture is affected by conflict including on agricultural outputs, inputs, land, infrastructure and labor supply caused by a direct exposure to conflict. The finding suggests three main results. Firstly, they show that production declines significantly in conflict-affected areas due to the disruption and destruction of farm production including livestock, crop products and agricultural land abandonment (Yin et al.2020; Munoz-Mora, 2016, Rockmore, 2020, Douarin et al., 2012, Blattman and Miguel, 2010, Verpoorten, 2009, Nillesen, 2007). In addition, the agricultural products that are easily transportable may be carted away to feed the members and sympathizers of armed groups. This may increase food insecurity by reducing food availability for local population. This is evidenced by the studies of George et al., 2021 in the case of armed conflict in Nigeria. They show that increased of conflict reduces agricultural output, outputs of specific staple crops and area harvested. They find that

conflict also reduces farmers' cattle holdings by increasing cattle thefts and losses and reducing purchased cattle. On the other hand, the damage to and loss of farm inputs such as seeds, fertilizer, pesticides, herbicides and other chemicals, including disruption of land tenure arrangements, can severely impact food availability (George et al., 2021 Kah, 2017). George et al. 2021 identify an infrastructure effect which is due to the damage to on-farm and off-farm agricultural equipment, including tractors, irrigation systems, wells, fences and storage facilities. They argue that this effect hinders the ability of farmers to rebound, in and post-crisis.

The second result suggested by the literature is that in some circumstances armed conflicts can stimulate agricultural production, when agricultural revenues fund conflict parties (Yin et al., 2019). This is illustrated by Jaafar and Woertz, 2016, showing that the Islamic State in Syria and Iraq (ISIS) forced landowners to continue agricultural production because agriculture was an important source of income. The studies by Gbanie et al., 2018 in the case of Sierra Leone also indicate that conflict can boost agricultural production with internally displaced persons (IDPs). They show that internally displaced persons (IDPs) may increase agricultural activities at their destination locations while reducing them at their origins. Finally, armed conflicts also limit the incentives in investments in technologies, making agricultural production primitive and costly (Brück, 2001) and reduce access to markets.

3. The impact of armed conflict on coping and consumption

The economic literature has given due attention to household coping strategies in wartime to protect their productivity, livelihoods and food security. Ogbozor(2016) for instance shows how individual and household strategies are dynamic and likely to differ at conflict onset and during protracted conflict. Several types of strategies are usually adopted, including shifts in crop production portfolios, labor reallocation, destroying or hiding livestock (and other visible assets), changes in land use patterns, migration, economic cooperation with local ruling groups and other activities that minimize victimization risks and uncertainty with a wide range of negative effects on consumption quality and quantity, caloric intake, food expenditure and food production (Arias et al., 2017, Bozzoli and Brück, 2009, Brück and Schindler, 2009, Gáfaro et al., 2014, Fernández et al., 2014, Menon and van der Meulen Rodgers, 2015, Rockmore, 2011, Verpoorten, 2009). Bozzoli, Brück and Muhumuza (2016) in Uganda show significant differences in activity choices between residents of internal displacement (IDP) camps and those who had just relocated from camps voluntarily. While camp residents are less active overall (which may suggest their productivity is low), they are more likely to cultivate and trade. Similar effects on food expense and calorie intake are found by Verwimp and Munoz-Mora (2018) in Burundi. They find that it would take 8–10 years after return for the welfare gap between displaced and non-displaced households to close.

Other studies have investigated food consumption patterns in conflict zones in various context (Martin-Shields and Stojetz, 2019). Using nationally-representative household survey data and confidential geo-coded data on violent incidents, D'Souza and Jolliffe (2013) examine the relationship between conflict and food insecurity in Afghanistan. They find that households living close to registered conflict events often experience drops in consumption levels. Similar results are found in Côte d'Ivoire by Dabalen and Paul (2014). Using the specific counts of conflict events across departments, and self-reported victimization indicators, they observed that households in the worst-hit conflict areas and

individuals who are the direct victims of the conflict are also those with lower dietary diversity. Similarly, Serneels and Verpoorten (2015) focusing on the conflict in Rwanda and using micro data find that households and localities that experienced more intense conflict are lagging behind in terms of consumption six years after the conflict.

Beyond violence, Arjona, Kasfir, and Mampilly (2015) argue that the local presence and power of state and non-state armed groups can also shape local consumption levels. In Congo, Sanchez de la Sierra (2020) finds that having a stationary bandit from a militia or the Congolese army increases welfare. This suggests that armed actors may create "essential functions of a state" by investing in local public goods which may increase local consumption levels. Justino and Stojetz (2018) point out a counter effect of the local presence and power of state and non-state armed groups. In fact, the essential role of food for the survival of armed groups may influence the level of local consumption, especially by reducing it.

4. The impact of armed conflict on nutritional status

Recent literature demonstrates that conflict may have detrimental short- and long-run effects on individuals' nutritional status. Akresh et al. (2012) examine the consequences of the Ethiopian–Eritrean war on the height of young children in Eritrea and find that children exposed to the war are shorter than the reference population by 0.42 standard deviations. In Côte d'Ivoire, Minoiu and Shemyakina (2014) find that children from regions more affected by the conflict suffered significant health setbacks compared with children from less affected regions. Similar results have been found by studies from diverse contexts, such as Burundi, Angola, Colombia, Mexico, Iraq and India (Bundervoet, Verwimp and Akresh, 2009; Arcand et al., 2015), Duque, 2016, Guerrero-Serdan, 2009, Nasir, 2016, Tranchant et al., 2020). However, the mechanisms by which violent conflict causes these immediate nutritional deficits, and how strong food security is affected, remains unclear in the literature. Several studies have found that the adverse short-term effects of conflict on children through nutritional channels may already be activated before a child is born ('in utero'). For example, in Colombia, Camacho (2008) finds that the exposure of women to violence across Colombia during the first three months of pregnancy resulted in lower birth weights. Similarly, in Mexico, Brown (2018) find that early gestational exposure to the recent escalation of the Mexican War is associated with a substantial decrease in birth weight. Other studies such as those by Foureaux Koppensteiner and Manacorda (2016), Mansour and Rees (2012), Parlow (2012) and Valente (2011) confirm these findings. Studies by Martin-Shields and Stojetz (2019) point out that conflict exposure early in life, including nutritional deficiencies and other adverse experiences, may thus pre-determine detrimental long-term impacts, which threaten food security as an adult. Study by Akresh, Bhalotra, Leone, and Osili (2012) in Nigeria show that women who had been exposed to the Nigerian civil war in Biafra between 0 and 3 years of age are, on average, 0.75 cm shorter than non-exposed women of the same age. Women who were exposed when they were 13 to 16 years old are 4.53 cm shorter than non-exposed women of the same age. These strong heterogeneities remain to be validated across other conflicts and contexts. In Iraq, Yin et al. (2020) examine the relationship between height-for-age z-scores, a measure of chronic malnutrition, and four indicators of violence. They find that a child exposed to the maximum number of violent incidents is likely to experience a 0.5 standard deviation reduction in height-for-age z-score compared to a child who is exposed to no incidents.

5. Impacts of food insecurity leading on armed conflict

So far, we have analyzed the impact of armed conflict on food security with the main assumption that violent conflict is the main driver of food insecurity and malnutrition, both acute and chronic. However, the causes of armed conflict are complex, nonlinear, and mediated by a host of factors including food security, loss of assets, threat to household livelihoods, together with economic and/or political marginalization. The coincidence between the global rise in food prices in the 2008s and the subsequent civil unrest in more than 40 countries has attracted increased attention on the relationship between food insecurity and political instability (Brinkman and Hendrix, 2013). For example, one of the driving forces behind the Arab Spring in Tunisia, Egypt and Libya was the high cost of food (e.g. Johnstone and Mazo, 2011, Maystadt et al., 2014). In addition, there are empirical studies that point out the positive relationships between food prices increasing and violent conflict (see e.g. Breisinger et al., 2015, Maystadt and Ecker, 2014). However, the issue is to know how and how much food prices drive violent conflict (Martin-Shields and Stojetz, 2019). Study by Bellemare (2015) examining the relation between food price levels, food price volatility and unrest, finds that although rising food prices appear to cause food riots, food price volatility is negatively associated with or unrelated to social unrest. Regardless, the dominant explanation for the relation between food prices and conflict are consumer grievances[6] and breakdowns of state authority and legitimacy especially when the state fails to provide food security (e.g. Lagi, Bertrand, & Bar-Yam, 2011). While food insecurity may trigger, fuel or sustain conflicts, the literature stresses that this is not the only cause. Variation in food production can be a catalyst for violent conflicts and political unrest due to climatic fluctuations (Miguel et al., 2004), the reduction or removal of subsidies on agricultural inputs, basic foodstuffs and cooking fuel (FAO, 2016). In other words, they may become the channel through which other, wider grievances such as poverty, unemployment (particularly of youth), low incomes, unpaid salaries, political marginalization and access to basic services are expressed (Brinkman and Hendrix, 2013). The corollary is that food price stabilization measures and safety nets are critical instruments for preventing violent conflict.

6. conclusion

‘‘End hunger, achieve food security, improve nutrition and promote agriculture” is one of the stated goals of the 2030 agenda for sustainable development. A major obstacle to achieving this goal is the growing incidence of armed conflict, terrorism and state fragility in the developing world. This obstacle deserves to be understood in particular its relation with food insecurity. In this perspective, availability of data in conflict regions has allowed the economic literature to provide a better understanding of the relationship between conflict and food security. In this document, we analyze the relationship between armed conflict and food insecurity through a literature review. While the analysis unit in most of literature is the household or individual and using several data sources including household surveys, ACLED and UCDP/PRIO data, we find that the literature on the micro-economics of conflict globally suggests a negative impact of armed conflict on household food security including on nutritional status, coping and consumption, and agricultural production. Furthermore, we find that food insecurity can also be a source of armed conflict. In all cases, exposure to armed conflict requires an immediate and appropriate response from

[6] Higher prices essentially create or increase economic constraints and/or sentiments of perceived relative deprivation, which activates grievances that in turn lead to conflict

policymakers. This response implies a clear understanding and monitoring of food insecurity in conflict-affected areas including household resilience.

Bibliography

Akresh R., Bhalotra S.,Leone M.,Osili U.O., War and stature: Growing up during the Nigerian Civil War, American Economic Review, 102 (3) (2012), pp. 273-277

Akresh R., Lucchetti L., Thirumurthy H. (2012), Wars and child health: Evidence from the Eritrean-Ethiopian conflict, Journal of Development Economics, 99 (2) (2012), pp. 330-340

Altare, C., & Guha Sapir, D. (2013). The burden of armed conflict: A public health approach. In T. Bruck & P. Verwimp (Eds.), A micro-level perspective on the dynamics of conflict, violence, and development. Oxford University Press.

Arias, M. A., Ibáñez, A. M., & Zambrano, A. (2017). Agricultural production amid conflict: Separating the effects of conflict into shocks and uncertainty. World Development, Volume 119, July 2019, Pages 165-184

Arcand J.-L., Rodella A.-S., Rieger M. (2015), The impact of land mines on child health: evidence from Angola, Economic Development and Cultural Change, 63 (2) (2015), pp. 249-279

Bar-Nahum, Z., Finkelshtain, I., Ihle, R. et al. Effects of violent political conflict on the supply, demand and fragmentation of fresh food markets. Food Sec. 12, 503–515 (2020). https://doi.org/10.1007/s12571-020-01025-y

Blattman C., E. Miguel, Civil war, Journal of Economic Literature, 48 (1) (2010), pp. 3-57

Bozzoli C., Brück T. (2009), Agriculture, poverty, and postwar reconstruction: micro-level evidence from Northern Mozambique, Journal of Peace Research, 46 (3) (2009), pp. 377-397

Bozzoli C., Brück T., Muhumuza T. (2016), Activity choices of internally displaced persons and returnees: Quantitative survey evidence from post-war Northern Uganda, Bulletin of Economic Research, 68 (4) (2016), pp. 329-347

Breisinger C., Ecker O. , Trinh Tan J.-F. (2015), Conflict and food security: How do we break the links? 2014–2015 global food policy report, Chapter 7

Brück T. and Marco d'Errico, 2019. Food security and violent conflict: Introduction to the special issue. World Development, Volume 117, 2019, Pages 167-171

Bundervoet T., Verwimp P., Akresh R. (2009), Health and civil war in rural Burundi, Journal of Human Resources, 44 (2) (2009), pp. 536-563

Bush R., Martiniello G. (2017, Food riots and protest: agrarian modernizations and structural crises, World Development, 91 (2017), pp. 193-207,

Cederman L.-E. , Vogt M. (2017), Dynamics and logics of civil war, Journal of Conflict Resolution, 91 (9) (2017), pp. 1992-2016

Cilliers, J. 2015. Future (im)perfect? Mapping conflict, violence and extremism in Africa. ISS Paper, 287, October 2015. Institute for Security Studies. Pretoria, South Africa.

Corley Andrew G., 2021. Linking armed conflict to malnutrition during pregnancy, breastfeeding, and childhood, Global Food Security, Volume 29, 100531.

Béné C., 2020. Resilience of local food systems and links to food security – A review of some important concepts in the context of COVID-19 and other shocks. Food Security (2020) 12:805–822
https://doi.org/10.1007/s12571-020-01076-1

Dabalen A.L., Paul S. (2014), Effect of conflict on dietary diversity: Evidence from Côte d'Ivoire, World Development, 58 (2014), pp. 143-158

Deaton, A. (1997). The analysis of household surveys. A microeconometric approach development policy. John Hopkins University Press for the World Bank.

Devereux, S. (2003). Discussion opener – Qualitative measures of food insecurity and hunger. In Proceedings of the FAO international scientific symposium, Rome, 26–28 June 2002, pp. 189–192.

Duque, V. (2016). Early-life conditions, parental investments, and child development: Evidence from a violent conflict. SSM - Population Health, Volume 3, December 2017, Pages 121-131

D'Souza A., Jolliffe D., 2013. Conflict, food price shocks, and food, insecurity: The experience of Afghan households, Food Policy, 42 (6621) (2013), pp. 32-47

Eck, K. (2012). In data we trust? A comparison of UCDP GED and ACLED conflict events datasets. Cooperation and Conflict, 47(1), 124-141.

Feindouno S., Michaël G., Wagner L. (2016), Internal Violence Index: a composite and quantitative measure of internal violence and crime in developing countries, FERDI

FAO, 2016. Peace conflict and food security: What do we know about the linkages? Rome, 2016. http://www.fao.org/3/i5521e/i5521e.pdf

FAO, 2017. The future of food and agriculture: Trends and challenges. Rome, 2017. http://www.fao.org/3/i6583e/i6583e.pdf

Food Security Information Network (FSIN). 2021. 2021 Global report on food crises. Rome, Italy: Food and Agriculture Organization (FAO); World Food Programme (WFP). https://docs.wfp.org/api/documents/WFP-0000127413/download/?_ga=2.129552324.936826810.1627291775-1640169547.1627291775

Food Security Information Network (FSIN). 2018. 2018 Global report on food crises. Rome, Italy: Food and Agriculture Organization (FAO); World Food Programme (WFP). https://www.wfp.org/publications/global-report-food-crises-2018

FAO, IFAD, UNICEF, WHO, and WFP (2017), The state of food security and nutrition in the world 2017. Building resilience for peace and food security, Food and Agriculture Organization, Rome (2017)

Fernández M., Ibañez A.M., Peña X. (2014), Adjusting the labor supply to mitigate violent shocks: Evidence from rural Colombia, Journal of Development Studies, 50 (8) (2014), pp. 1135-1155

Gáfaro, M., Ibáñez, A. M., & Justino, P. (2014). Local institutions and armed group presence in Coolombia. HiCN Working Paper 178.

Gbanie S., Griffin A., Thornton A. (2018), Impacts on the urban environment: land cover change trajectories and landscape fragmentation in Post-War Western Area, Sierra Leone Remote Sens. (Basel), 10 (2018), p. 129

George J., Adelaja A., Awokuse T. O. (2021), The agricultural impacts of armed conflicts: the case of Fulani militia, European Review of Agricultural Economics, Volume 48, Issue 3, July 2021, Pages 538–572, https://doi.org/10.1093/erae/jbaa022

Gibson, J. (2005). Statistical tools and estimation methods for poverty measures based on cross-sectional household surveys. In J. Murdoch (Ed.), Handbook on poverty statistics. United Nations Statistics Division.

Guerrero-Serdan, G. (2009). The effects of the war in Iraq on nutrition and health: An analysis using anthropometric outcomes of children. HiCN Working Paper 55.

Ihle, R., & Rubin, O. D. (2013). Consequences of unintended food policies: Food price dynamics subject to the Israeli–Palestinian conflict. Food Policy, 42, 96–105.

Jaafar H.H., E. Woertz (2016), Agriculture as a funding source of ISIS: A GIS and remote sensing analysis, Food Policy, 64 (2016), pp. 14-25

Johnstone S., Mazo J. (2011). Global warming and the Arab Spring Global Politics and Strategy, 53 (2) (2011), pp. 11-17

Justino, P. (2009). The impact of armed civil conflict on household welfare and policy responses. HiCN Working Paper 61.

Justino, P. (2012). Nutrition, governance and violence: A framework for the analysis of resilience and vulnerability to food insecurity in contexts of violent conflict. HiCN Working Paper 132.

Justino, P.(2012). War and Poverty. IDS Working Papers, Volume2012, Issue391. https://doi.org/10.1111/j.2040-0209.2012.00391.x

Justino, P., & Stojetz, W. (2018). On the legacies of wartime governance. HiCN Working Paper 263.

Lagi, M., Bertrand, K. Z., & Bar-Yam, Y. (2011). The food crises and political instability in North Africa and the Middle East. SSRN Working Paper.

Le Kien, Nguyen My (2020). Armed conflict and birth weight, Economics & Human Biology, Volume 39, 100921

Martin-Shields, C. P., & Stojetz, W. (2019). Food security and conflict: Empirical challenges and future opportunities for research and policy making on food security and conflict. World Development. https://doi.org/10.1016/ j. worlddev.2018.07.011.

Maystadt J.-F., Trinh Tan J.-F., Breisinger C. (2014). Does food security matter for transition in Arab countries? Food Policy, 46 (2014), pp. 106-115

Maxwell, D., Vaitla, B., Coates, J. (2014), How do indicators of household food insecurity measure up? An empirical comparison from Ethiopia, Food Policy, Volume 47, August 2014, Pages 107-116.

Menon N., van der Meulen Rodgers Y. (2015), War and women's work: Evidence from the conflict in Nepal, Journal of Conflict Resolution, 59 (1) (2015), pp. 51-73

Minoiu C., Shemyakina O.N. (2014), Armed conflict, household victimization, and child health in Côte d'Ivoire, Journal of Development Economics, 108 (2014), pp. 237-255

Migotto, M., Davis, B., Carletto, G., & Beegle, K. (2005). Measuring food security using respondents' perception of food consumption adequacy. Agricultural and Development Economics Division, FAO, ESA Working Paper No. 05-10.

Nasir, M. (2016). Violence and child health outcomes: Evidence from the Mexican drug war. HiCN Working Paper 208.

Nillesen E., Empty cups? Assessing the impact of civil war violence on coffee farming in Burundi (2007, African Journal of Agricultural and Resource Economics, 11 (1) (2007), pp. 69-83

OECD. 2015. States of Fragility 2015: Meeting post-2015 ambitions. Paris, OECD Publishing.

Ogbozor, E. (2016). Resilience to violent extremism: The rural livelihood coping strategies in the Lake Chad Basin. HiCN Working Paper 237.

Pérez-Escamilla, Rafael and Segall-Corrêa, Ana MariaFood insecurity measurement and indicators. Revista de Nutrição. (2008), v. 21, n. suppl, pp. 15s-26s

Peace Research Institute Oslo (PRIO), 2019. Conflict Trends: A Global Overview, 1946–2019. https://reliefweb.int/sites/reliefweb.int/files/resources/Palik%2C%20Rustad%2C%20Methi%20-%20Conflict%20Trends%20A%20Global%20Overview%201946-2019%2C%20PRIO%20Paper%202020.pdf

Rockmore, M. (2020). Conflict and agricultural portfolios: Evidence from Northern Uganda. The Journal of Development Studies, Volume 56, 2020 - Issue 10

Rockmore, M. (2011). The cost of fear: The welfare effects of the risk of violence in Northern Uganda. HiCN Working Paper 109.

Sanchez de la Sierra, R. (2020). On the origin of states: Stationary bandits and taxation in Eastern Congo. Journal of Political Economy, Volume 128, Number 1

Serneels P., Verpoorten M. (2015), The impact of armed conflict on economic performance: Evidence from Rwanda, Journal of Conflict Resolution, 59 (4) (2015), pp. 555-592

Scaramozzino, P. (2006). Measuring vulnerability to food insecurity. ESA Working Paper No. 06-12, October.

Taydas Z., Enia J., James P. (2011). Why do civil wars occur? Another look at the theoretical dichotomy of opportunity versus grievance, Review of International Studies, 37 (5) (2011), pp. 2627-2650

Tranchant, J.-P., Gelli, A., Bliznashka, L., Diallo, A. S., Sacko, M., Assima, A., Siegel, E. H., Aurino, E., and Masset, E. (2019). The impact of food assistance on food insecure populations during conflict: Evidence from a quasi-experiment in Mali. World Development, 119 :185–202.

Tranchant, J.-P., Justino, P., & Müller, C. (2020). Political violence, drought and child malnutrition: Empirical evidence from Andhra Pradesh, India. Economics & Human Biology, Volume 39, December 2020, 100900

Tusiime A. Hamidu, Renard Robrecht, Smets Lodewijk (2013), Food aid and household food security in a conflict situation: Empirical evidence from Northern Uganda, Food Policy 43 (2013) 14–22.

UN, 2020. Conflict and violence: a new era.
https://www.un.org/fr/un75/new-era-conflict-and-violence

Verpoorten, M. (2009). Household coping in war- and peacetime: Cattle sales in Rwanda, 1991–2001. Journal of Development Economics, 88(1), 67–86.

Verwimp, P., & Munoz-Mora, J. C. (2018). Returning home after civil war: Food security, nutrition and poverty among Burundian households. The Journal of Development Studies, Volume 54, 2018 - Issue 6.

Wiesmann, D., Bassett, L., Benson, T., & Hoddinott, J. (2009). Validation of the world food programme's food consumption score and alterna- tive indicators of household food security. IFPRI Discussion Paper 00870, Poverty, Health, and Nutrition Division.

Yin H., Butsic V., Buchner J., Kuemmerle T., Prishchepov V. A., Baumann M., Bragina V. E., Sayadyan H., Radeloffa C. V. (2020), Agricultural abandonment and re-cultivation during and after the Chechen Wars in the northern Caucasus, Global Environmental Change, Volume 55, March 2019, Pages 149-159