



Conflict, Aspirations, and Women’s Empowerment: Household Survey Evidence from Farmer-Herder Conflicts in Nigeria

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Abstract

Using original survey data from three states in rural, southwestern Nigeria, this study examines the relationship between conflict intensity at various distances and the empowerment and aspiration levels of women whose households are primarily engaged in farming. We analyze geo-coded data on violent clashes between ethnic groups that primarily herd livestock for their livelihood and those that primarily farm crops; these clashes are growing more frequent across West Africa with climate-induced land degradation, as herding populations are moving further south in search of grazing land. Our outcomes of interest include women’s economic and social aspirations, and women’s economic, social, and political behaviors that could impact their long-run empowerment. We find that exposure to higher conflict intensity is closely linked to adverse outcomes, including income loss, assault, and forced migration. Higher conflict intensity is also associated with lower women’s economic and social aspirations, though social aspirations are more affected by proximate conflicts, while economic aspirations are more affected by more distant conflicts. Women’s economic, social, and political activities also vary with conflict-affectedness. With more conflict nearby, women are more likely to own their own off-farm businesses and less likely to own an off-farm business in which they share ownership with their husband. With more exposure to distant conflicts, women devote less time to off-farm labor and more time to agricultural labor. Near conflict, women are less likely to be members of mutual aid groups and to contact government officials and more likely to engage local security groups for protection and to be members of political parties. These differences could have long-run implications for women’s empowerment.

Keywords

gender, women’s empowerment, farmer-herder conflict, Nigeria, aspirations

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JEL Classifications

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Disclaimer

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1. Introduction

Understanding how conflict shapes women's aspirations for the future is important for identifying ways to promote stability and inclusion in fragile contexts. For all individuals, low aspirations can exacerbate poverty traps, as they can hold individuals back from taking steps to improve their well-being (Banerjee and Duflo, 2011). For women specifically, low aspirations can further not just poverty traps but also 'social status' traps, as women with higher aspirations tend to have more egalitarian gender attitudes and experience greater empowerment in their marriages (Kosec et al., 2022). Aspirations within conflict-affected contexts are particularly important for the resilience of households and communities: if women do not see much hope in feasibly improving their future well-being in conflict-affected contexts, they may not take actions that could promote the resilience of their households and communities and even promote peacebuilding efforts.

We focus on women because neither the experience of conflict nor its consequences are gender neutral. Conflict differentially affects men's and women's labor supply, human capital, and roles in the household and in society (Buvinic et al., 2014; Chakraborty et al., 2018; Hernandez-de-Benito, 2022). Men may be newly called to participate in armed groups, while women may be called on to take on new roles in their households and communities (Yadav, 2021). Women may also suffer disproportionately from reductions in income and reductions in asset wealth or be uniquely victimized by sexual violence. The effects of war experience on social and psychological resilience can also vary across genders (Annan et al., 2011). More generally, women are under-represented in data on conflict-affectedness (Brown and Malapit, 2023) and both theorizing how they may be uniquely affected by shocks and testing those effects using gender-disaggregated data fills an important gap in our understanding.

Aspirations can relate to any goal or target that individuals consider important to their welfare, like income, social status, wealth, education, health, and more. We focus on two domains of women's aspirations which we argue could be shaped by conflict exposure: economic and social status. Economic aspirations have to do with the desire to improve personal earnings, while social status aspirations relate to the desire to be respected and seen as a valuable source of knowledge and advice or having a strong social network and influence over community decision-making (Bernard and Taffesse, 2014; Kosec and Khan, 2016).

Rural, southwestern Nigeria provides an ideal environment in which to study the relationship between conflict and women's aspirations. Much of the literature examining the psychological effects of conflict has looked at exposure to violence over the entirety of a multi-year civil war to understand how variations in exposure levels may shape psychology and behaviors in the postwar period (e.g. Blattman,

2009; Moya and Carter, 2019; Voors et al., 2012). However, perennial conflicts between groups (in our case, farmers and herders) whose presence is spreading and escalating are also of critical interest to policymakers aiming to devise solutions that promote peace as well as economic and social opportunities. Nigeria is at a critical period where conflict is spreading but not yet pervasive, offering a policy window during which action is needed.

Using a new dataset on women's economic and social aspirations collected in the Nigerian states of Ogun, Osun, and Oyo (Adida et al., 2023; Kosec, Kyle, and Mo, 2023) and the Armed Conflict Location and Event Data (ACLED) project geo-referenced data on conflict events, we make two empirical contributions. First, we establish that ACLED data on the number of herder-related conflicts in various bands around a woman's household (0-15km, which we consider to be her immediate surroundings, as well as more distant bands that might indirectly impact her, including 15-30km and 30-45km) during the two years prior to our survey (2021-2023) indeed predict self-reported conflict affectedness. More conflicts are associated with income loss, assault, forced migration, theft, property damage, and market closures. Second, we explore the relationship between proximity to conflict events and outcomes including women's economic and social aspirations and associated economic and social behaviors that might be affected by conflict and similarly have implications for women's empowerment.

We find that proximity to conflict zones, particularly within a 15km radius, is indeed associated with significantly higher probabilities of these adverse outcomes—both validating our self-reported, survey-based measures of conflict affectedness as well as indicating the severity of damage wrought by even one additional conflict event. Exposure to conflict events also predicts lower economic as well as social status aspirations, with more distant conflicts (30-45km away) mattering most for economic aspirations, while it is more proximate conflicts (0-30km away) which have the most predictive power for social status aspirations. These findings underscore the nuanced relationship between conflict events and individual perceptions, emphasizing the importance of addressing both the tangible impact of conflict and individuals' psychological responses in conflict-affected regions. Considering whether conflict predicts differences in economic and social behaviors (specifically, those we associate with investment in income generation and social capital), we see that conflict is additionally linked with the likelihood of owning a business (solely and with a spouse), with time use toward economic activities, and with different types of community-level group membership and political participation.

In advancing these findings, we make several important contributions. First, we advance understanding of the psychological toll that conflict exerts on civilian populations, building on a growing literature on the mental health effects of violence (e.g. Charlson et al., 2019; Williams, Ghimire, and Snedker, 2018). We consider both the direct physical and psychological toll taken (e.g., in terms of

income loss, assault, forced migration, theft, property damage, and market closures) as well as their effects on aspirations, or ambitions, for the future. Second, we advance the study of aspirations by highlighting how conflict might shape women's aspirations in different domains—the economic and the social status domains, specifically—and identifying conditions under which different domains of aspirations might react differently. In this, we further consider simultaneous shifts in behaviors that have implications for women's economic and social futures.

The rest of the paper is organized as follows. Section 2 outlines the conceptual framework and hypotheses. Section 3 describes the setting. Section 4 presents the data, measurement, and empirical strategy; Section 5 the results. Finally, Section 6 concludes with policy recommendations and directions for future research.

2. Farmer-herder conflicts and women's aspirations and behaviors

Aspirations, or individuals' goals for the future, play a significant role in development outcomes. Low aspirations can prevent poor individuals from taking advantage of opportunities that could improve their well-being, such as investing in small businesses, pursuing education for themselves or their children, or otherwise enhancing their prospects, even when returns on investment would be high (Banerjee and Duflo, 2011). Understanding how individual characteristics and life events influence aspirations is thus critical to mitigating poverty traps (Fruttero, Muller, and Calvo-Gonzalez, 2021).

Conflict experiences could profoundly alter women's economic and social status aspirations through at least three pathways. First, women living near violent events could experience direct physical harm and socioeconomic disruption, which can be devastating and long-lasting (Verwimp, Justino, and Bruck, 2019). Conflict can force populations to abandon land and homes, losing critical productive assets and social networks. Schools and other critical services can close, lowering educational attainment and health status (Angelucci, Heath and Noble 2023; Bundervoet et al., 2009). Disrupted markets make it harder for households to earn income and to purchase food, with nutritional impacts on children persisting for years (Alderman, Hoddinott, and Kinsey, 2006; Shemyakina, 2022). Women may experience these shocks disproportionately (Doss et al., 2018) and face additional targeted violence, like sexual violence (Cohen, 2013).

Experiencing such harm can diminish individuals' sense that they have control over what happens in their own lives, or their locus of control. Women may feel that their hard work and investments could disappear due to conflict events beyond their control, which can dampen their willingness to invest in activities that could nonetheless improve their livelihoods and well-being. This perceived lack of control could help to explain why negative shocks, such as floods, lower aspirations (Kosec and Mo, 2017) and

why individuals exposed to adverse weather events often invest less in education and health (Moya, 2018; Jensen, 2000; Maccini and Yang, 2009) and participate less in political life (Kosec, Kyle, and Takeshima, 2023). Conflict's direct impacts may also reduce men's support for women's aspirations—either because women's ambitions appear more threatening to men's status amid economic scarcity or concerns over the risks to physical safety involved in pursuing those goals (Kosec et al. 2021; Kosec et al., 2023). Since men's support is critical for women to achieve their aspirations in many settings, this may lead women to lower their ambitions accordingly.

Second, exposure to violence can harm women's mental well-being, making it harder for them to develop economic and social aspirations. Literature from psychology shows that exposure to violence can cause trauma, reducing individuals' coping abilities (Mollica et al., 1998; Yehuda, 2002), and that fear of violence is a chronic stressor, affecting mental health outcomes (Williams, Ghimire, and Snedkher, 2018), especially for women (Ekhtor-Mobayode et al., 2022). For example, Familiar et al. (2016) found significant depression and anxiety among those exposed to conflict within the Burundian civil war, and childhood exposure to conflict in Vietnam has been linked to adverse mental health outcomes in adulthood (Singhal, 2019). In Colombia, Moya and Carter (2019) found that victims of severe violence displayed more hopelessness about the future and had lower aspirations for economic mobility.

Third, in addition to causing direct economic, physical, and psychological harm, conflict can also indirectly affect individuals by altering the broader environment. Conflict spillover effects, such as displaced populations, disrupted markets and trade flows, road blockages, and the spread of disease, can destabilize surrounding areas (for a review of spillover effects, see Sesay, 2004). These spillover effects from violence could indirectly lower women's sense of internal locus of control, similar to the effects of a negative shock, by introducing instability and uncertainty into their communities. Violence can also erode community trust, making the social connections needed to achieve economic or social goals feel unattainable. Seeing or hearing about others' losses, such as asset theft, may discourage women from investing in their own futures or prompt them to focus on protecting what they already have.

Taken together, these pathways suggest both that proximity to conflict can negatively affect women's aspirations and that women outside the immediate range of violent clashes could nonetheless experience lower locus of control and diminished aspirations. This logic motivates the following hypothesis on women's aspirations in conflict-affected settings:

H1: Conflict shocks will be associated with women's lower economic and social status aspirations.

While it may seem intuitive that conflict would lower women's aspirations, this association is worth testing and examining more closely. Beyond its negative direct and indirect impacts, conflict can reshape economic, social, and political life in ways that could have implications for both aspirations and women's long-run empowerment. First, conflict heightens the value of social capital, particularly for women left behind to manage in rural communities while men engage in conflict or protection activities. External threats can push communities to band together to cope collectively with the negative effects of violence, such as by forming collective security arrangements to protect themselves against the entry of outside armed actors (Krakowski, 2020). For example, individuals may form local community watch organizations or community self-defense groups to protect themselves against asset theft; join voluntary associations to collectively provide public goods in case public services falter; or pool resources to help families victimized by violence. For women, safety concerns may necessitate working and moving in groups. Because social capital can promote resilience in the face of external threat, external threats can raise the value of social capital and encourage individuals to invest in it (Jennings and Sanchez-Page, 2017). The increased value of social capital could translate into higher (rather than lower) social status aspirations; it is not obvious whether the potential positive effects of the high value of social capital will counterbalance conflict's negative direct and indirect physical, economic, and psychological effects.

Second, a growing body of literature explores how conflict and natural disasters can shift gender norms, showing that such shocks can empower women by expanding their roles within communities as men shift to conflict-related activities (Berry, 2018; Moreno and Shaw 2018; Yadav, 2021). This literature challenges the narrative of women solely as victims in conflict and disaster, suggesting that these shocks can create opportunities for women to gain greater access to new roles in communities as well as to financial, social, and natural resources.

Accordingly, this study not only investigates women's aspirations but also examines how proximity to conflict may reshape their economic, social, and political activities in ways that could affect their empowerment and well-being over the long-term. Conflict can spur changes in social and economic systems, changing what economic activities are viable and profitable, what individuals need to do to protect their assets and income streams, and what individuals need to do to avoid and adapt to changing conditions. These changes could lead women to pursue new activities or shift old ones even if their aspirations or sense of psychological well-being is lower. Thus, we examine numerous economic, social, and political activities relevant to the Nigerian context that could indicate potential shifting social and economic systems in the future. Understanding these behavioral changes helps to put any shifts in women's aspirations into a larger context of how women's empowerment might be change over the long-term.

3. Conflicts between Herding and Farming Communities in Nigeria

For centuries, nomads from the Fulani ethnic group have herded cattle across West Africa. Herdsman would travel along established routes between Mali and Nigeria, sharing land and resources with farming communities along the way through economic cooperation and shared land tenure arrangements (George et al. 2021). Yet, violent clashes between Fulani pastoralists and farming communities have become more common and more destructive in recent years, causing more than 15,000 deaths across West and Central Africa between 2010 and 2020 (Brottem, 2021). Violent farmer-herder conflicts have additionally driven large-scale internal displacement (ibid.), harmed agricultural livelihoods (FAO, 2018), reduced school enrollment (ICG, 2018), and increased rates of gender-based violence (UNOWAS, 2018). While many countries across West and Central Africa are facing increases in conflicts between herders and farmers, Nigeria has been hardest hit by fatalities (Brottem, 2021).

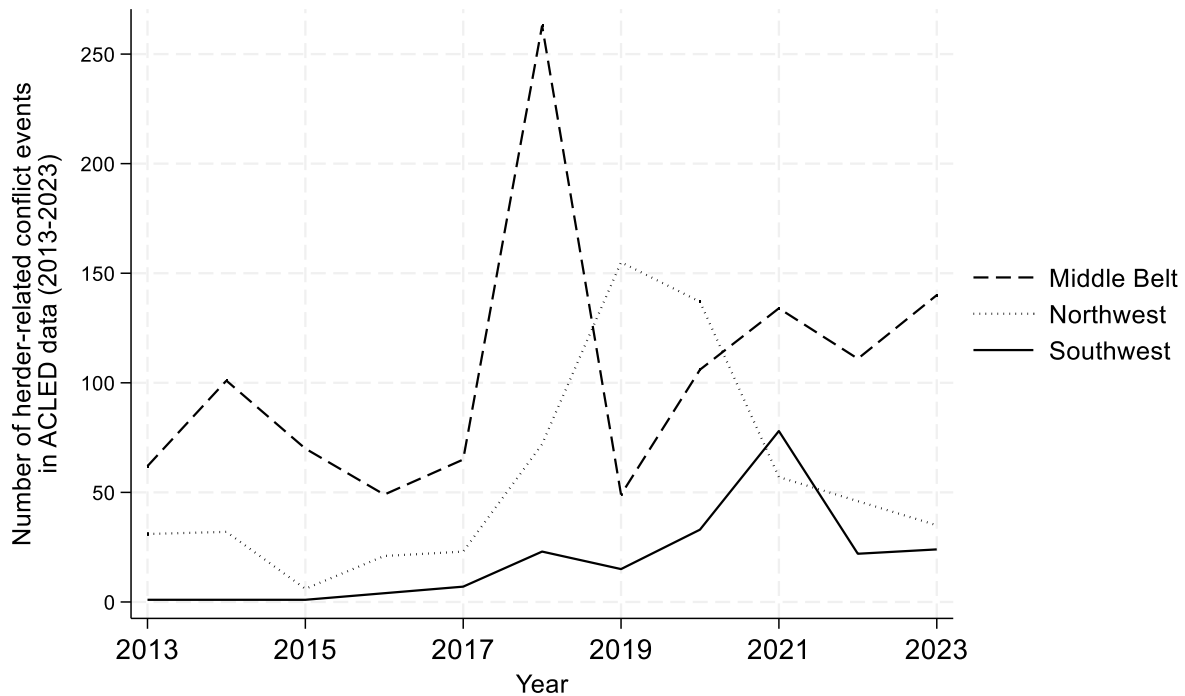
Growing rural populations and changing climate have contributed to high pressure on lands along the traditional grazing routes. Rural populations in the zone of West and Central Africa along grazing routes have increased by 40 percent in 20 years (ibid.), increasing the amount of land dedicated to crops and reducing pastoral land. In 2002, the Nigerian government mapped traditional grazing routes across the country and found that 40 percent of traditional routes were gone (Akinwotu 2021). Meanwhile, changes in precipitation have influenced grazing patterns and compelled pastoralists to explore areas beyond traditional routes, including by moving southward into areas that lack history with sharing land and water resources peacefully with herdsman and with resolving disputes between them (Audu, 2013; Halliru, 2015; Dimelu et al., 2016). In Nigeria, Boko Haram has displaced many Fulani from their homeland and engaged in extensive cattle theft, further fueling southward migration and the search for new grazing routes (Eke 2020; George and Adelaja 2022). The loss of traditional grazing routes and expansion of herding into new areas has eroded social cohesion that used to exist along the routes between farming communities accustomed to the presence of pastoralists for short periods of time and pastoralists who could trust local farmers around their most valuable assets—their livestock—and to share land and water resources with them. New routes lack these historical ties (Akinwotu 2021).

While conflicts between Fulani pastoralists and sedentary farming communities did occur sporadically in the past, these clashes were primarily tit-for-tat retaliations for specific grievances. Ready availability of small arms in this region (Ubilava et al. 2022) and rising grievances on both sides have converted isolated clashes into something closer to armed insurgency. Heavily armed Fulani militants have carried out organized attacks against farming villages to extort payments and to force access to resources. Many villages, meanwhile, have formed vigilante groups to defend against attacks; these vigilante groups will sometimes carry out reprisal attacks against Fulani pastoralists, even if those targeted

by violence were not those involved in the triggering dispute (Brottem, 2021). While the national government plans to shore up national grazing reserves, it has so far largely failed to adopt policies to mitigate conflicts, whether by addressing land zoning, grazing, and livestock routes; developing security and conflict resolution mechanisms; or deploying or supporting strategies to combat desertification and improve land management in northern areas (Benjaminsen & Ba, 2019; Busby et al., 2013). Meanwhile, several state governments have passed outright grazing bans, which severely exacerbated tensions and contributed to the peak of farmer-herder violence in 2018 (Brottem, 2021).

Data in this study was collected from three states in southwestern Nigeria—Oyo, Osun, and Ogun—which are among the areas where conflicts between Fulani pastoralists and sedentary farming communities have newly escalated. As recently as 2015, as shown in Figure 1, almost all farmer-herder conflicts were concentrated in Nigeria’s Middle Belt—the area immediately south of homelands of the Fulani. By 2021, southwest Nigeria experienced 71 violent farmer-herder clashes. The three specific states in our study were the sites of almost 80 percent of those events and resemble many areas across West and Central Africa which are newly facing escalating conflict between farming and herding communities. Understanding how the dynamics of how conflict is affecting women’s aspirations and behaviors can provide lessons for fostering peace and stability in other fragile and conflict-affected contexts.

Figure 1: Trends in Farmer-Herder Conflicts, 2013-2023



Notes: This represents the number of conflict events in which herders or pastoralists are identified as a primary or a secondary actor that took place in each of the geo-political zones of the Middle Belt, the Northwest, and Southwest between 2013 and 2023. The three study states for our paper—Oyo, Ogun, and Osun—are located in Southwest Nigeria. Source: ACLED Data 2013-2023.

While there has been increased attention on escalating conflict between Fulani pastoralists and farming communities, there has thus far been remarkably little attention to the consequences for women (Flintan et al. 2024). Poverty has fallen in Nigeria over the last twenty years in urban areas, yet poverty in rural areas—where women predominately live and where they provide 60-79 percent of the rural labor force—remains persistently high (World Bank, 2018). Nigeria lags other African countries in the share of female representatives and in other measures of women’s political participation (Adida et al. 2023; Ragasa et al. 2023). While the Nigerian government has put into place important policy initiatives and legal frameworks supporting gender equality, discriminatory gender norms and low access to resources and opportunities have meant that Nigeria continues to rank among the most gender unequal countries in the world in development outcomes (UNDP 2023).

4. Data and measurement

To investigate the relationship between farmer-herder conflicts and women’s aspirations and behaviors, we use survey data from across three states in rural Nigeria. This survey—the Metaketa Nigeria Rural Women’s Baseline Survey (hereafter, MNRWBS)—sampled randomly from rural wards in the states of Oyo, Osun, and Ogun and covered women’s economic and social aspirations, socio-economic characteristics, and participation in community governance and associations.¹ The survey covered 150 wards in each state, sampling approximately 13 women from each ward for a total sample of 5,825 women (Adida et al. 2023; Kosec, Kyle, and Mo, 2023).² Women were sampled into the survey based on three steps. First, within each ward, one community was randomly-selected. Second, village chiefs (called *baales* in this region of Nigeria) identified 13 women within the community who met a set of eligibility criteria for a study to be implemented after the survey: being married, between the ages of 21 and 50, and at least minimally economically active.³ Third, women had to be willing to participate a monthly training on advocacy skills for six months and have husbands willing to participate in a men’s training program on supporting women’s advocacy. Full recruitment and selection criteria are detailed in the pre-analysis plan for a randomized controlled trial conducted after the MNRWBS was implemented (Adida et al., 2023).

Given the sampling requirements that women be willing to participate in a training program on political advocacy and be at least minimally economically active, it is likely that the women in the sample have higher social and economic aspirations than average women in rural Nigeria. In practice, the women in the sample still vary considerably in their personal economic and social status aspirations. On average, women in the sample aspire to earn 221,029 Naira per month in five years’ time (approximately \$245 USD) and would prefer a social status of 8.4 on a 1-10 ladder; yet personal income aspirations range from 0-5,000 Naira per month to more than 500,000 Naira per month, and social status aspirations range from 1 to 10.

¹ Before sampling, 3 out of 700 rural wards in these states were removed from the sampling frame due to distance / accessibility, and 8 additional wards were removed due to piloting and focus group discussions conducted within these wards. After drawing the sample, 21 out of 450 selected wards had to be replaced in the sample due to accessibility issues identified by our implementing partners. Accessibility issues were primarily due to survey costs. Replacement communities were randomly selected.

² This survey was conducted as a baseline survey for a randomized controlled trial on advocacy trainings to increase women’s political participation in Nigeria. This was one of five coordinated studies supported by the Evidence in Governance and Politics (EGAP)’s Metaketa initiative – which aims to deploy the same randomized control trials in different country contexts and learn lessons from the full set (Hyde et al. 2022).

³ The majority of women in this area of rural Nigeria are economically active, so in practice this was often not a binding constraint. This criterion ensured that women had some mobility within the village and would be able to attend training courses.

While this sample of women was initially recruited for a different purpose, it is a relevant sample for studying the effects of conflict exposure on economic and social status aspirations. The women in the survey sample are all of an age for whom aspirations about the future matter and can shape behaviors and actions. Being married means they likely have more leeway to take on economic and social activities within the community compared to younger, unmarried women, and their expressed willingness to attend training programs on women's political advocacy combined with some labor force participation indicates some interest and ability in social and economic activities and a lack of a binding constraint on intra-household gender norms or physical mobility that would prevent them from taking on any new roles or activities. This study can show whether conflict exposure is associated with higher or lower economic and social status aspirations among this important subset of women.

Data on farmer-herder conflicts were taken from the Armed Conflict Location Event Data (ACLED) project.⁴ Since we expect conflict-driven changes in women's aspirations and behaviors to vary based on their proximity to conflict, we model the number of conflicts at varying distance bands to each individual woman in our survey, using GPS coordinates of conflict events and of surveyed women. We identified farmer-herder conflicts in the two years preceding the MNRWBS (June 2021 to June 2023) by identifying violent events involving "pastoralists," "herders," "herdsmen," "Fulani," or "Fulani ethnic militia." Violent events include events like murders, kidnappings, attacks, sexual violence, and violent demonstrations.^{5,6} In total, we code 613 violent herder-related conflict events during 2021-2023 across Nigeria. We calculate the distance between each of these conflict events and the women in the MNRWBS sample. This allows us to code two sets of variables. First, we create variables measuring the number of herder-related conflict events within different distances of each woman: 0-15km, 15-30km, and 30-45km. In our sample, this ranges from 0 to 12 conflict events. Second, we code a set of indicator variables for having at least one violent event occur within each of these same three bands. Around half the sample has experienced a violent conflict event within 15km in the past 2 years (48.6 percent). One reason to use these distance bands rather than a narrower one (e.g. 5 or 10km) is that ACLED jitters the geographic

⁴ This dataset captures six event types: battles, explosion/remote violence, protests, riots, strategic developments, and violence against civilians. Sub-event types include: (1) Battles: Government regains territory, non-state actor overtakes territory, armed clash; (2) Explosion/Remote violence: Chemical weapon, air/drone strike, suicide bomb, shelling/artillery/missile attack, remote explosive/landmine/EID, grenade; (3) Violence against civilians: sexual violence, attack, abduction/forced disappearance; (4) Riots: violent demonstration, mob violence; (5) Protests: peaceful protest, excessive force against protesters, protest with intervention; (6) Strategic developments: agreement, arrests, change to group/activity, disrupted weapons use, headquarters of base established, looting/property destruction, non-violent transfer of territory, and other (ACLED 2019).

⁵ We thus excluded non-violent sub-events categorized by ACLED as "Agreement," "Other," or "Peaceful protest."

⁶ Bloem et al. (2021) note that because herders are often framed as the perpetrators of violence, there is the potential of undercounting incidents when herders are the victims of violence (e.g., through reprisal attacks by vigilante groups).

coordinates of the conflict data to preserve anonymity, so these slightly wider bands are more likely to be accurate.

To test if the number of farmer-herder conflict events matter for women's aspirations and behaviors, we specify several measures of our outcome variables. To measure women's economic aspirations, we ask about the level of monthly personal income they would like to achieve in five years' time. Because individuals' aspiration levels can be affected by social comparisons with those around them, we look both at women's stated income aspirations as well as their aspiration levels normalized using the mean and standard deviation of the total sample (subtracting the overall sample mean from each woman's aspiration level and then dividing it by the overall sample standard deviation). The resulting normalized outcome represents the number of standard deviations from the sample mean that an individual's aspired level is located; positive (negative) values indicate levels above (below) the sample mean. To measure women's social aspirations, we ask them to indicate on a ten step ladder the social status—defined by people in the community respecting you, looking up to you, and valuing your opinions—that they wish to achieve in five years' time.

Beyond shifting women's aspirations, conflict could be shifting the types of economic, social, and political behaviors that women can engage in that shape their empowerment and status within communities. The MNRWBS collected a number of relevant indicators. First, we look at whether women are own and operate a non-farm business either on their own (32.8 percent of sample) or jointly with their husband (31.6 percent of sample) and the amount of time that women spend respectively on wage labor and operating off-farm business and on agricultural labor. On average, women in the sample spent 30.1 hours per week operating off-farm business, 13.7 hours working for wages or salary, and 16 hours on agriculture.⁷

Second, we look at women's group memberships and engagement within communities. We look at their membership in groups focusing on peacebuilding within communities (23 percent), membership in mutual aid societies and other social service groups (45 percent); and whether women report anyone from their household engaging a vigilante or other type of protection group (18 percent). While the latter does not measure the actions of women themselves, it offers insights into how the household as a whole may be shifting behaviors due to conflict proximity. We also look at women's political participation,

⁷ Many women in the sample estimated more time spent on all of the tasks that we asked about than there are hours in a week. Thus, we summed all time allocations across the five core categories of time use: labor for an off-farm business, wage labor, agricultural labor, unpaid care and house work, and free time and calculated the ratio of time that women estimated spending on each time use category. For women who estimated their total time for the week as above 126 hours, we then multiplied that ratio by 126, or roughly the number of waking hours in a week. This transformation ensures that we preserve women's estimates of what tasks they spend more time on relative to other tasks.

including whether women report having contacted a government official to raise an issue (26 percent); whether women report having attended a community meeting in the past 6 months (51 percent); and whether women report being a member of a political party (62 percent). Table 1 provides summary statistics of each of the variables used in our analyses.

All models contain a limited number of control variables to minimize risks of spurious results. First, since the potential for change in women’s aspirations depends on their current status, we control for personal income and current perceived social status on a ten step ladder. We also control for women’s age and education level, using a dummy variable for whether they completed secondary school, and a dummy variable indicating whether they were able to read a sentence in their native language (Yoruba). We further control for women’s religion (53 percent of the sample are Christian and 45 percent Muslim), the number of children that they have, and whether women identify as farmers when asked about their occupation. To control for women’s economic well-being, we use the level of household income (on average, 79,201 Naira or approximately \$88 USD) in the past month as well as an index of assets owned by the household. We use principal component analysis (PCA) to construct the asset index, using the first principal component from a PCA of household ownership of seven different assets: radio, television, refrigerator, mobile phone, bicycle, motorcycle, and access to electricity.

Table 1: Summary Statistics

	Source	N	Mean	SD	Min	Max
<i>Conflict-affectedness</i>						
No. conflicts 0-15km	ACLED	5814	0.676	0.860	0	5
No. conflicts 15-30km	ACLED	5814	1.72	1.71	0	9
No. conflicts 30-45km	ACLED	5814	3.00	2.24	0	12
<i>Aspirations</i>						
Aspired level of personal income (10,000s Naira per month)	MNRWBS	5748	22.1	18.0	0.25	50
Aspired level of social status (1-10)	MNRWBS	5814	8.36	2.25	1	10
<i>Economic, social, and political behaviors</i>						
Owens a non-farm business solely	MNRWBS	5784	0.328	0.469	0	1
Owens a non-farm business jointly with spouse	MNRWBS	5784	0.316	0.465	0	1
Has a bank account, either own or with husband	MNRWBS	5813	0.741	0.438	0	1
Hours spent working on off-farm business in past week	MNRWBS	5814	30.1	26.0	0	120
Hours spent working for wages in past week	MNRWBS	5814	13.7	21.0	0	113
Hours spent working in agriculture in past week	MNRWBS	5814	16.0	18.3	0	103
Member of a peacebuilding group	MNRWBS	5806	0.225	0.418	0	1
Member of a social service group	MNRWBS	5807	0.450	0.498	0	1

Household joined or engaged local security group	MNRWBS	5788	0.176	0.381	0	1
Contacted a government official to raise an issue	MNRWBS	5814	0.261	0.439	0	1
Attended a community meeting in past 6 months	MNRWBS	5787	0.514	0.500	0	1
Member of a political party	MNRWBS	5807	0.617	0.486	0	1
<i>Controls</i>						
Age	MNRWBS	5814	36.0	7.84	20	53
Secondary education	MNRWBS	5814	0.521	0.500	0	1
Literacy	MNRWBS	5814	0.455	0.498	0	1
Christian	MNRWBS	5813	0.533	0.500	0	1
Identifies farming as occupation	MNRWBS	5813	0.319	0.466	0	1
Number of children under 18	MNRWBS	5814	2.23	1.65	0	19
Current social status (1-10)	MNRWBS	5814	5.80	2.51	1	10
Monthly household income (10,000s of Naira)	MNRWBS	5677	7.92	9.13	0.25	50
Asset score - PCA	MNRWBS	5800	0	1.44	-3.66	2.42

Notes: (1) For MNRWBS variables the year is 2023 and for ACLED variables, the information is from over 2 years prior to the MNRWBS survey, June 2021 – June 2023. (2) Monthly household income was initially collected in interval format but transformed into a continuous variable for this analysis by using the median value of each interval. (3) We normalize the variables using the mean and standard deviation of all women.

Source: ACLED (2021-2023); MNRWBS (2023).

All statistical models presented below are estimated using ordinary least squares (OLS) regressions with standard errors clustered at the ward level, estimating the following equation:

$$Y_{i,2023} = \beta_0 + \beta_1 C1_{i,(2021-23)} + \beta_2 C2_{i,(2021-23)} + \beta_3 C3_{i,(2021-23)} + \beta_4 X_{i,2023} + \beta_5 Z_{i,2023} + \tau\sigma_j + \epsilon_i$$

$Y_{i,2023}$ denotes an outcome for woman i and date sub-scripts indicate the year to which the data correspond.⁸ $C1$ refers to the nearest conflict band, defined as the number of herder-related conflicts within 0 to 15 kilometers. Similarly, $C2$ and $C3$ denote the number of conflicts within 15-30 km and 30-45 km, respectively. $X_{i,2023}$ is a vector of individual characteristics from our 2023 survey of women that could potentially influence $Y_{i,2023}$, including age, a dummy for completing high school, a dummy for being a Christian, a dummy for literacy, and a dummy for whether women identify as farmers for their occupation. $Z_{i,2023}$ is a vector of household characteristics including the household's current monthly income (in Naira), number of children, and an asset wealth index.⁹ σ_j represents state fixed effects, and ϵ_i is an error term. We cluster standard errors at the ward level as our conflict variables vary at this level

⁸ For MNRWBS variables the year is 2023 and for ACLED variables, the information is from over 2 years prior to the MNRWBS survey, June 2021 – June 2023.

⁹ The index is the first principal component from a principal components index constructed based on ownership of 7 different assets. The PCA was based on household ownership of durable goods and assets like radio, television, refrigerator, mobile phone, bicycle, and motorcycle, as well as access to electricity.

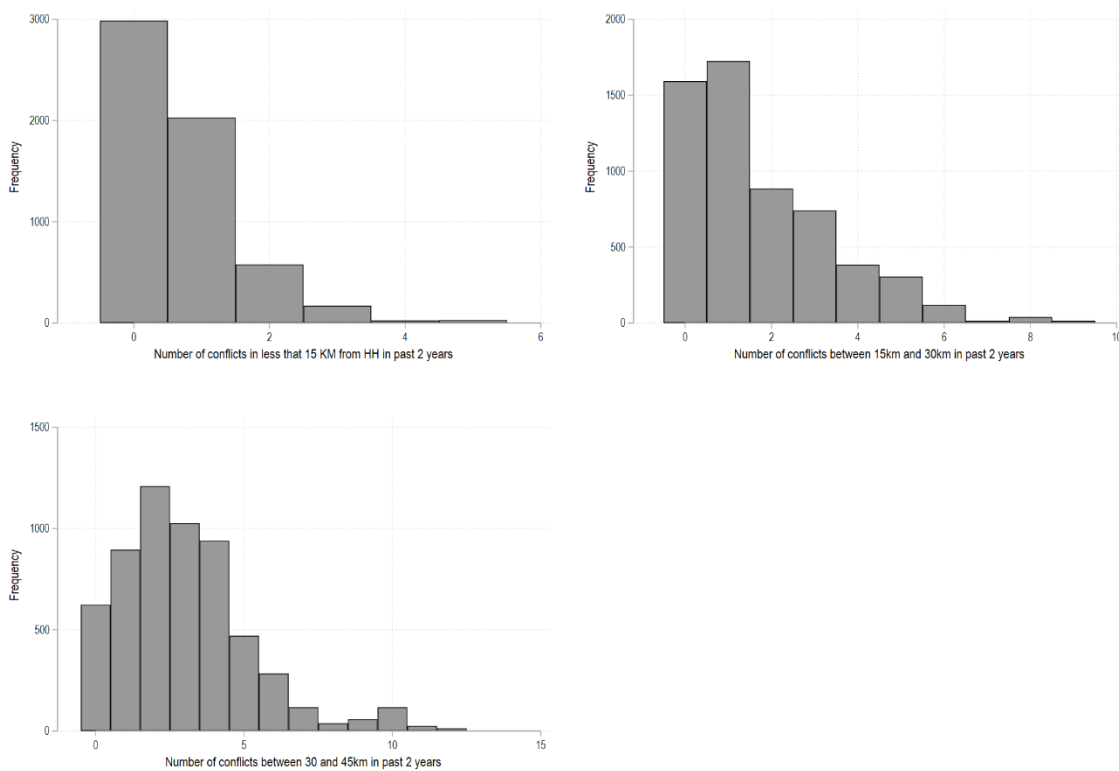
(given they are based on ward-level GPS coordinates onto which we merged ACLED data).¹⁰ We then estimate models adding in our individual-level concern variable.

5. Results and Discussion

5.1 ACLED conflict shock measures and women's conflict affectedness

Before testing relationships between conflict exposure and women's aspirations and behaviors, we briefly inspect whether and how proximity to farmer-herder conflicts in the ACLED data relates to women's self-reported conflict-affectedness. Figure 3 graphs the frequency within the sample that women are exposed to violent clashes within each distance band within the past two years. On average, women are exposed to 0.68 violent clashes in the past 2 years within 15km of their homes, to 1.7 violent clashes between 15 and 30km, and to 3 violent clashes between 30 and 45km.

Figure 3: Frequency of violent clashes by distance to nearest violent clash



Source: ACLED (2021-2023); MNRWBS (2023).

¹⁰ While in theory they are recorded for each woman, women in the MNRWBS were interviewed at a centralized location in the vast majority of cases and so share the same coordinates.

The MNRBWS measures eight ways in which women can be affected by farmer-herder conflicts. In each case, the survey asks whether women experienced an outcome *because* of farmer-herder conflicts during the past 12 months. We look at: income loss, assault (of themselves or a family member), asset theft, crop damage, irrigation damage, or market closure due to farmer-herder conflicts over the past year, or if they had to move during that same period because of farmer-herder conflicts. We additionally look at whether women report experiencing food insecurity during the last year.¹¹ These are by no means the only potential effects of conflict proximity, but these outcome variables can help shed light on some of the channels through which women are experiencing the effects of farmer-herder conflicts as well as the geographic intervals of those effects.

Table 2: Individual conflict-affectedness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Income loss	Assault	Had to move	Asset theft	Crop damage	Irrigation damage	Food insecurity	Market closure
No. conflicts 0-15km away	0.013 (0.012)	0.016* (0.008)	0.012* (0.007)	0.025** (0.010)	0.027** (0.012)	0.031*** (0.012)	-0.004 (0.009)	0.019* (0.011)
No. conflicts 15-30km away	-0.006 (0.007)	-0.003 (0.004)	-0.001 (0.003)	0.001 (0.005)	-0.010 (0.007)	0.001 (0.006)	0.005 (0.004)	0.007 (0.005)
No. conflicts 30-45km away	0.010** (0.005)	0.003 (0.003)	0.000 (0.002)	0.004 (0.004)	0.007 (0.005)	0.018*** (0.004)	0.003 (0.004)	0.003 (0.003)
Observations	5,645	5,642	5,639	5,636	5,646	5,644	5,659	5,640
Controls	YES	YES	YES	YES	YES	YES	YES	YES
State fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
<i>Sample Mean</i>	<i>0.414</i>	<i>0.130</i>	<i>0.111</i>	<i>0.307</i>	<i>0.403</i>	<i>0.321</i>	<i>0.701</i>	<i>0.136</i>

Note: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, including state fixed effects, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. **Source:** ACLED (2021-2023); MNRWBS (2023).

Table 2 reveals significant self-reported levels of conflict affectedness by the women in the sample, especially within the closest proximity to violent clashes. Looking just at the mean levels of affectedness, more than 40 percent of women in the sample report income loss and crop damage due to

¹¹ We specifically asked if, in the past two weeks, there was a time when, due to a lack of money or other resources, they or any member of their household had to skip a meal.

farmer-herder conflicts in just the past 12 months. More than 30 percent of women in the sample report asset theft and irrigation damage due to farmer-herder conflicts in the past 12 months, while 13, 11, and 14 percent report a household member experiencing an assault, being displaced, or experiencing local market closures due to conflicts.

Many of these effects are concentrated closest to the violent clashes. This closest band of proximity to conflict (within 15km) has a statistically significant positive association with several adverse outcomes: assault, displacement, asset theft, crop damage, irrigation damage, and market closure, indicating that these events are more likely to occur in areas closer to conflict zones. These results are particularly strong for irrigation damage, where one additional conflict within 15km predicts a 3.1 percentage point increase in the likelihood of experiencing this adverse outcome ($p < 0.01$), underscoring the vulnerability of agricultural infrastructure to nearby conflicts. The findings align with recent empirical evidence suggesting that conflicts can result in significant devastation, including physical injury, loss of assets, heightened food insecurity, disruptions in markets, and restricted mobility due to security issues (Verwimp, Justino, and Bruck, 2019; Angelucci, Heath, and Noble, 2023). These difficulties pose challenges for women in participating in off-farm markets, achieving profitable sales of agricultural products, and accessing inputs at reasonable prices (Bruck et al., 2020; Shemyakina, 2022).

The relationship between violent conflicts and these conflict-affectedness outcomes perhaps unsurprisingly appears to diminish with a conflict's distance, with fewer significant associations observed for conflicts occurring between 15-30km and 30-45km from households. However, results are by no means null for these more distant violent conflict events; for example, we identify a significant relationship between conflicts that are 30-45km away and both income loss and irrigation damage. This is consistent with the spread of conflict to nearby areas changing income generating opportunities, even when women are not experiencing conflict in their own community. That the associations between the conflict distance bands we use and our self-reported conflict-affectedness measures decline with greater distance increases our confidence that we are not missing key dynamics by not including more distant bands.¹²

5.2 Women's aspirations

Next, we examine the relationships between proximity to violent conflict and women's aspirations. Table 3 reports the empirical links between the intensity of conflict exposure within each distance band and women's economic and social status aspirations (Columns 1 and 2, respectively).

¹² As a robustness check, we introduce a fourth band. Detailed information is available in Appendix 2.

Several patterns emerge in the data relevant to understanding women’s aspirations in this setting. First, we find no evidence that the number of conflicts close to the household (within 15km) or at moderate distance (between 15 and 30km) significantly threatens women’s economic aspirations. This could be because conflicts threaten assets and livelihoods, pushing women to take on new income-generating roles to address income shortfalls (Kosec et al., 2021). Additional violent conflicts within a 30-45km radius, however, predicts economic aspirations that are 0.02 S.D. lower ($p < 0.05$), equivalent to approximately 3,600 Naira per month. At this distance from violent clashes, women may be experiencing and observing broader economic disruptions caused by conflicts while not yet facing urgent income and asset losses that could be pushing women to mitigate household shortfalls. Indeed, in our sample, 75 percent of women who are within 30-45km of at least one violent farmer-herder clash but no conflicts within closer bands note that they are “very concerned” with the spread of farmer-herder conflicts.

Table 3: Conflict and social aspirations

	(1) Aspired monthly personal Income (Naira) (standardized)	(2) Aspired social status (standardized)
No. conflicts 0-15 km away	0.017 (0.021)	-0.035* (0.020)
No. conflicts 15-30 km away	-0.010 (0.010)	-0.021* (0.011)
No. conflicts 30-45 km away	-0.020** (0.008)	-0.001 (0.009)
Age	0.063*** (0.014)	-0.001 (0.016)
Age, squared	-0.001*** (0.002)	0.0004 (0.002)
Number of children	-0.017** (0.008)	0.038*** (0.009)
Secondary education	0.145*** (0.035)	0.016 (0.032)
Christian	-0.029 (0.030)	0.025 (0.031)
Literacy	0.091*** (0.032)	0.143*** (0.031)
Asset index	0.040***	0.021*

	(0.011)	(0.012)
Current perceived social status	0.083*** (0.016)	0.327*** (0.020)
Employed in farming	0.037 (0.030)	0.015 (0.034)
Household income (in 10,000s Naira)	0.036*** (0.002)	0.006*** (0.001)
Observations	5,627	5,662
State fixed effects	YES	YES
R-squared	0.163	0.138

Notes: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, including state fixed effects, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses.

Source: ACLED (2021-2023); MNRWBS (2023).

Column 2 presents results from a model examining associations between conflict and women’s social status aspirations. In contrast to the null findings on the links between nearby conflict intensity and economic aspirations, the number of conflicts within 15km predicts significantly lower aspired social status. An additional conflict is linked with reduced social status aspirations by -0.035 S.D. (p<0.1); 12 additional conflicts nearby would predict a fall in aspirations by a full rung on the ten step ladder. This is consistent with immediate social disruptions and perceived barriers to achieving elevated status lowering ambitions in terms of social status, as advanced in hypothesis H1. Furthermore, conflicts within a 15-30km radius also predict lower social status aspirations, though the coefficients on the number of conflicts are smaller in magnitude. This is consistent with the social effects of conflict extending beyond the immediate vicinity, influencing perceptions and aspirations at larger distances. However, conflicts occurring within a 30-45km radius are not significantly associated with women’s social status aspirations. This is consistent with the perceived impact of conflicts on social mobility and status being more localized than their economic impacts—potentially due to interconnections between the economies of even distant communities via markets, while there is less social interaction with distant (e.g., 30-45km away) communities.

Importantly, these models control for household income levels, wealth, current social status, and women’s educational attainment (i.e., what women already have), and the outcome variable is what women *wish* to obtain. Several of the control variables also strongly predict women’s economic and social status aspirations. In general, older, more educated and wealthier women with fewer children have higher aspirations for their personal incomes, and wealthier, literate women with more children have higher social status aspirations. We also run the same models using dummy variables for whether there are *any* conflicts within each band and obtain similar results. From these results, we see evidence that similarly-

endowed women aspire to earn less in the future when they are more individually concerned with conflict and experience more conflict effects, consistent with hypotheses H1.

In summary, conflicts, especially those in close proximity to individuals, can detrimentally affect both economic and social aspirations. Although the effects do not seem large in magnitude, the effect size of an additional conflict between 30 and 45km on a woman’s aspired income is similar in magnitude to the effect size of having an additional child, for example. Notably, the adverse effects on economic aspirations persist even when conflicts are geographically distant and do not lower social status aspirations. This has important implications for policy; policy solutions need to address not just direct loss and destruction in areas immediately surrounding conflict events, but also broader spillover effects across a wider radius, including on psychological outcomes like aspirations (Kosec and Mo 2017).

5.3 Women’s behaviors

Beyond influencing women’s aspirations, conflict intensity nearby could profoundly shift the types of economic, social, and political behaviors that women are motivated and able to engage in, with potential consequences for their long-term empowerment. Table 4, Panel A presents results for how conflict intensity correlates with several economic behaviors key to women’s economic empowerment and well-being: whether they own an off-farm business on their own, whether they own an off-farm business with their husband, the time that they spend on off-farm businesses, the time spent on wage labor, and the time that they spend on agricultural activities. Each row in the table represents a separate regression on each behavioral outcome variable, including the same set of controls in the models in Table 3. Meanwhile, Panel B presents results for how conflict correlates with key social and political behaviors key to women’s political empowerment and ability to advocate for and meet their needs within the community: membership in a local peacebuilding or conflict resolution group, membership in a mutual aid society or local volunteer committee, the households’ use of vigilante groups for protection services, contacting public officials to raise an issue, attending a community meeting, and membership in a political party. These behaviors are crucial for understanding how conflict shapes not only current living conditions and aspirations for the future, but also individuals’ engagement in activities that have long-term implications for their economic stability and social integration.

Table 4: Associations between conflict and economic, social, and political behaviors

No. conflicts 0-15km	No. conflicts 15-30km	No. conflicts 30-45km	Controls	State fixed effects	Observations
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Panel A: Economic behaviors

Owns an off-farm business, solely	0.029*** (0.010)	-0.001 (0.006)	-0.004 (0.005)	YES	YES	5637
Owns an off-farm business, jointly with husband	-0.020* (0.011)	-0.001 (0.005)	0.001 (0.004)	YES	YES	5637
Has a bank account, solely or with husband	-0.002 (0.013)	0.0003 (0.005)	-0.0001 (0.005)	YES	YES	5637
Hours spent on off-farm labor in last week	0.621 (0.457)	-0.566* (0.310)	-0.026 (0.228)	YES	YES	5662
Hours spent on wage labor in last week	-0.023 (0.444)	-0.417** (0.207)	0.047 (0.194)	YES	YES	5662
Hours spent on on-farm labor in last week	-0.539 (0.524)	0.306 (0.230)	0.816*** (0.191)	YES	YES	5662

Panel B: Social and political behaviors

Member of a peacebuilding group	-0.004 (0.008)	-0.006 (0.004)	-0.002 (0.003)	YES	YES	5655
Member of a volunteer group	-0.021* (0.011)	0.003 (0.005)	-0.0004 (0.004)	YES	YES	5655
HH engages local protection group	0.026** (0.011)	-0.002 (0.005)	-0.009 (0.003)	YES	YES	5636
Contact government official	-0.020*** (0.007)	-0.004 (0.004)	-0.000 (0.003)	YES	YES	5662
Attend community meeting	-0.003 (0.011)	-0.003 (0.006)	-0.002 (0.005)	YES	YES	5636
Member of a political party	0.025* (0.013)	-0.009 (0.006)	-0.0004 (0.005)	YES	YES	5655

Note: *** p<0.01, ** p<0.05, * p<0.1. Each row represents a single regression, where the first column displays the outcome variable and only the coefficients on conflict-related variables are shown in the columns. All specifications are estimated using OLS and include our full set of controls, including state fixed effects, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses.

Source: ACLED (2021-2023); MNRWBS (2023).

Living in an area affected by conflict is associated with different types of economic, social, and political engagement with communities. In areas affected by conflict within 0-15km, households are almost equally likely to own off-farm business compared to households in areas without conflict nearby (91 percent versus 89 percent, respectively). However, women are more likely to report that they solely own an off-farm household business and less likely to report that they jointly own an off-farm business with their husband. This could be explained by a number of factors. Men could be reducing the time that they are spending on off-farm business in order to protect communities or to increase time devoted to farming to recover from damage to crops and irrigation, leaving women to make more decisions in family off-farm businesses and to consider themselves more as sole owners of the business. It is also possible that households are shifting the types of off-farm businesses that they own due to security and instability concerns decreasing the perception that this type of investment will yield a good return, yet simultaneously making it necessary that women earn to recover income losses. Sole women-owned businesses often require low capital investments and have low productivity in these rural settings and could be something like braiding hair or selling snacks; if so, higher propensity for solely owned versus joint businesses could indicate reduced household incomes. Meanwhile, households could be securing their savings in banks, reflecting a risk-averse behavior aimed at protecting financial resources. We cannot adjudicate between these different reasons in the data.

There is also some suggestive evidence in Table 4 that women living in areas affected by conflict spend their time differently, especially within the medium and farther range conflict bands. In the medium bands, women are spending significantly less time on off-farm businesses and wage labor and, in the outer band, significantly *more* time on agricultural labor. This could indicate extra efforts that families are putting into farms to better protect their land and rush harvests while they worry about whether violent clashes in surrounding areas will affect their communities. Meanwhile, reduced time in off-farm businesses and wage labor could indicate safety concerns of doing these activities. Conflict is not associated with a higher or lower likelihood of reporting having a bank account.

Regarding social and political behaviors, Panel B also shows that women in conflict-affected areas engage differently in communities. Women are less likely to be engaging in mutual aid societies or volunteer associations within the community with every additional violent clash in the 0-15km conflict band. It is impossible to tell from this analysis whether communities where women have weaker social ties and lower levels of communal self-help are more likely to be targeted by violence, or whether women withdraw support from voluntary associations as the security environment in their village changes, or

both. Meanwhile, women are more likely in the 0-15km conflict band to report that their household is either directly participating in a vigilante or protection group due to farmer-herder conflicts or that they are supporting these groups. Perhaps reflecting this reliance on local groups who operate outside the state, women living nearby conflict also report lower levels of contacting government officials to raise an issue. This could also be because of difficulty reaching government offices in person with heightened security risks, which are usually far away from rural villages.

Interestingly, additional conflicts within the 0-15km band are associated with higher likelihood that women report belonging to political parties. The difference in reported group membership between volunteer associations and political parties could reflect the differing nature and goals of these groups, with political parties possibly offering a platform for addressing conflict-related issues directly, while volunteer associations actually reduce their operations (e.g., due to less access to funds which can finance their activities, or reduced mobility of some group members) amid immediate disruptions caused by nearby conflicts.

These results should be understood against the backdrop of our social status aspirations results. Social capital holds high value in conflict settings due to the need for informal resource sharing when communities are under stress, the role of social cohesion in peacebuilding and dispute resolution, and the need to farm and travel to markets in groups due to safety concerns. However, women in conflict-affected communities do not appear to engage in social capital building at higher rates. This coincides with the results on social status aspirations, which decline as conflict increases.

6. Conclusions

This study underscores the significant ways in which proximity to farmer-herder conflicts shapes women's aspirations and behaviors in rural Nigeria, with important implications for their long-term empowerment. Using data on conflict events and individual well-being and perceptions, we find that proximity to conflict zones is closely linked to adverse outcomes, including income loss, assault, and forced migration. Further, our study highlights a negative relationship between conflict exposure and women's economic and social aspirations. While we identify a negative relationship for both types of aspirations, the pathways appear to differ. Distant conflicts predict lower economic aspirations, likely due to their effects on important, distant markets, while nearby conflicts predict lower social aspirations, reflecting localized disruptions to social cohesion and mobility.

Conflict also correlates with women's economic, social, and political behaviors, presenting nuanced findings. Women more exposed to proximate conflict are more likely to have a businesses for

which they are the sole owner, but less likely to have a business for which they and their husband are joint owners. More distant conflicts tend to predict less time spent on off-farm and wage work, and more spent on on-farm labor. Social behaviors also correlate with conflict, with women reducing their participation in mutual aid societies and engaging more with local protection groups. Politically, women's membership in political parties is higher near conflict zones, reflecting potential shifts in how they navigate community and governance structures in response to violence. These behaviors could be driven by necessity in the face of external threat, by changes in the value and returns to different behaviors in a conflict setting, or by changes in psychology; our data cannot distinguish between these pathways. It is nonetheless valuable to illuminate the ways in which women's roles in labor markets and community groups are different in a conflict zone to better know how to target women with policy interventions.

This study has some limitations. First, we use cross-sectional data, and because conflict events are not randomly assigned, endogeneity remains a concern. While we aim to address this through controls and geographic fixed effects, we cannot eliminate such concerns. Additionally, we shed light on women's aspirations but lack data on men to permit gendered comparisons of impact. Naturally, this means that our findings might be different for men, had we studied them. Future research should focus on resolving endogeneity concerns more robustly and examining gender differences in the impacts of conflict. It should also examine whether the identified differences in behaviors persist over time—shedding light on whether habituation and adaptation change behavioral responses over time. Finally, future research could explore mechanisms underlying these behavioral shifts and test targeted interventions to address conflict's negative impacts, ultimately informing strategies for improving gender equity and stability in fragile contexts.

Our findings highlight the importance of addressing both the direct damage and psychological toll of conflict. This research provides valuable insights for policymakers and organizations supporting women in conflict-affected regions. First, interventions in these areas that fail to consider the psychological impact of conflict may overlook a crucial aspect of its effects. Diminished social and economic aspirations could have long-term implications, affecting whether women are able to seize opportunities to improve their own lives as well as those of their families and communities. The benefits of interventions to reduce conflict and promote social cohesion might be underestimated if its toll on aspirations is overlooked or not quantified. Second, there may be opportunities to strengthen women's empowerment during conflict, particularly by building on the expanded roles they are taking on in political engagement and sole business ownership in conflict zones. Ensuring that women have the information, voice and agency, and freedom of movement required to engage politically and economically

can further support this increases interest in political participation, ensuring that women are agents of change in conflict-affected settings.

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1. Appendix

1.1. Appendix 1: Metaketa Project Baseline Survey of Women’s Voice and Agency (Questionnaire)

The questions shown below are a subset of the complete survey. We have included only the information from the questions used for the analysis in this paper.

Question	Answer
MKV Baseline Survey	
Please select the state of interview.	State (list)
Please select the Local Government of the Interview	LGA (list)
Please select the name of the ward	Ward (list)
Please select the name of the community	Community (list)
What is the ID of the individual?	Select one number: [1-13]
Module 1: Demographics	
I would like you to read this sentence to me. <i>Note: ENUMERATORS SHOULD HAVE FOUR CARDS, ONE FOR EACH SENTENCE BELOW. PICK A CARD AT RANDOM TO SHOW TO RESPONDENT. [IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?]</i>	<ol style="list-style-type: none"> 1. Cannot read at all 2. Able to read only part of the sentence 3. Able to read whole sentence 4. No card with required language 5. Blind/visually impaired
How old are you? [Note to enumerator: You can only use numbers (no text) to answer this question]	Age: _____
What is your current marital status?	<ol style="list-style-type: none"> 1. Never married 2. Married 3. Not married but living with partner 4. Divorced or separated 5. Widowed 6. Other (specify)
Collecting information on the children a woman has can be helpful for ensuring she and they get medical care, education, etc. Do you have any children under age 18? If no, enter 0. If yes, how many children under age 18 do you have? <i>Note to enumerator: You can only use numbers (no text) to answer this question.</i>	Number of children: _____
In the last one month, have you done anything to earn money outside of your household?	<ol style="list-style-type: none"> 1. Yes 2. No
What is your current primary employment? [Please read responses aloud each option.]	<ol style="list-style-type: none"> 1. Farming 2. Herding 3. Casual / day labor

	<ol style="list-style-type: none"> 4. Processing marketing, and trading agricultural products 5. Working for yourself / off-farm business 6. Salaried job 7. Other 8. You do not work
What is your current secondary employment?	<ol style="list-style-type: none"> 1. Farming 2. Herding 3. Casual / day labor 4. Processing, marketing, and trading agricultural products 5. Working for yourself / off-farm business 6. Salaried job 7. Other 8. No other work
Does your household have: Electricity?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A radio?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A television?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A refrigerator?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A mobile phone?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A bicycle?	<ol style="list-style-type: none"> 1. Yes 2. No
Does your household have: A motorcycle or motor scooter?	<ol style="list-style-type: none"> 1. Yes 2. No
What is your religion, if any?	<ol style="list-style-type: none"> 1. Christian 2. Muslim 3. African Traditional Religion 4. Other (specify)
What is your highest level of education?	<ol style="list-style-type: none"> 1. No formal schooling 2. Informal schooling only (including Koranic schooling) 3. Some primary schooling 4. Primary school completed 5. Intermediate school or some secondary school/high school 6. Secondary school/high school completed 7. Post-secondary qualifications, other than university 8. Some university 9. University completed 10. Post-graduate

<p>Now please tell us how much your household as a whole—including your spouse, yourself, and any other family members who may contribute to household income—earned from farm and non-farm activities like wages or profits from a business during the last month?</p> <p>Again, consider the CASH income your household earns in a MONTH from all agricultural and non-agricultural activities, as well as any money you may receive from the government or any other organization [Please show the response options to the respondents as you read them aloud]</p>	<ol style="list-style-type: none"> 1. 0-5,000 Naira 2. 5,001-10,000 Naira 3. 10,001-20,000 Naira 4. 20,001-30,000 Naira 5. 30,001-40,000 Naira 6. 40,001-50,000 Naira 7. 50,001-60,000 Naira 8. 60,001-70,000 Naira 9. 70,001-80,000 Naira 10. 80,000-100,000 Naira 11. 100,000-120,000 Naira 12. 120,000-150,000 Naira 13. 150,001-180,000 Naira 14. 180,000-210,000 Naira 15. 210,001-240,000 Naira 16. 240-001-270,000 Naira 17. 270-001-300,000 Naira 18. 300-001-400,000 Naira 19. 400-001-500,000 Naira 20. > 500,000 Naira
<p>Previously, we asked about your household as a whole. Now, please tell us how much you PERSONALLY earned last MONTH? And again, consider how much CASH income you personally earned last MONTH from all agricultural and non-agricultural activities, as well as any money you could receive from the government or any other organization.</p> <p>And again, consider how much CASH income you personally earned last MONTH from all agricultural and non-agricultural activities, as well as any money you could receive from the government or any other organization. [Please show the response options to the respondents as you read them aloud]</p>	<ol style="list-style-type: none"> 1. 0-5,000 Naira 2. 5,001-10,000 Naira 3. 10,001-20,000 Naira 4. 20,001-30,000 Naira 5. 30,001-40,000 Naira 6. 40,001-50,000 Naira 7. 50,001-60,000 Naira 8. 60,001-70,000 Naira 9. 70,001-80,000 Naira 10. 80,000-100,000 Naira 11. 100,000-120,000 Naira 12. 120,000-150,000 Naira 13. 150,001-180,000 Naira 14. 180,000-210,000 Naira 15. 210,001-240,000 Naira 16. 240-001-270,000 Naira 17. 270-001-300,000 Naira 18. 300-001-400,000 Naira 19. 400-001-500,000 Naira 20. > 500,000 Naira
<p>Now, we would like to ask you about what you hope for. How much income do you hope that you PERSONALLY will be earning each month five years from now? It is ok to answer “0” if you do not want to be working in 5 years.</p> <p>And again, consider how much CASH income you personally earned last MONTH from all</p>	<ol style="list-style-type: none"> 1. 0-5,000 Naira 2. 5,001-10,000 Naira 3. 10,001-20,000 Naira 4. 20,001-30,000 Naira 5. 30,001-40,000 Naira 6. 40,001-50,000 Naira 7. 50,001-60,000 Naira

<p>agricultural and non-agricultural activities, as well as any money you could receive from the government or any other organization. [Please show the response options to the respondents as you read them aloud]</p>	<ol style="list-style-type: none"> 8. 60,001-70,000 Naira 9. 70,001-80,000 Naira 10. 80,000-100,000 Naira 11. 100,000-120,000 Naira 12. 120,000-150,000 Naira 13. 150,001-180,000 Naira 14. 180,000-210,000 Naira 15. 210,001-240,000 Naira 16. 240-001-270,000 Naira 17. 270-001-300,000 Naira 18. 300-001-400,000 Naira 19. 400-001-500,000 Naira 20. > 500,000 Naira
<p>High social status means that people in the community respect you, look up to you, and value your opinions. On a ten step ladder, with 1 being the lowest rung and 10 being the highest rung, what is the level of social status that you have at present? <i>Note to enumerator: You can only use numbers (no text) to answer this question.</i></p>	<p>Answer: _____ [1-10]</p>
<p>On a ten step ladder, with 1 being the lowest rung and 10 being the highest rung, what is the level of social status that you would like to achieve? <i>Note to enumerator: You can only use numbers (no text) to answer this question.</i> Response constrained to: .>=1 and .<=10</p>	<p>Answer: _____ [1-10]</p>
<p>Module 2: Participation</p>	
<p>In the last six months, have there been any community meetings in your area that citizens could attend, like town hall meetings or village square meetings?</p>	<ol style="list-style-type: none"> 1. Yes 2. No
<p>Have you attended any of those meetings?</p>	<ol style="list-style-type: none"> 1. Yes 2. No
<p>Module 10: Livelihood and goals</p>	
<p>Does your household own and operate a business?</p>	<ol style="list-style-type: none"> 1. Yes, my husband owns and operates one 2. Yes, I own and operate one 3. Yes, my husband and I own and operate one (jointly operating the same one or each operating different ones) 4. Other members of my household own and operate one 5. No, nobody in my household owns and operates one
<p>How many hours in the last 7 days did you run or help do any kind of non-agricultural household</p>	

business, big or small, for yourself or the household? <i>Note: Number of hours has to be between 0-120</i>	Answer: _____[1-120]
Do you have a bank account or a joint bank account with your spouse?	1. Yes 2. No
Next, we would like to know about any types of groups or associations in this village that you may have participated in during the last 6 months. Have you participated in a Social service group like a school committee or mutual aid society during the last 6 months?	1. Yes 2. No
Have you participated in a Political Party during the last 6 months?	1. Yes 2. No
Have you participated in a group focused on peace, security issues, or conflict resolution in the community during the last 6 months?	1. Yes 2. No
Now we would like to ask you some questions about food and hunger. In the past 2 weeks, was there a time when, because of lack of money or other resources: You or any member of your household was worried you would not have enough food to eat? You or any member of your household had to skip a meal?	1. Yes 2. No
In the past 2 weeks, was there a time when, because of lack of money or other resources: You or any member of your household had to skip a meal?	1. Yes 2. No
How concerned are you about conflicts between farmers and herders in Nigeria?	1. Very concerned 2. Somewhat concerned 3. Not very concerned 4. Not at all concerned 5. Don't know / have never heard of these conflicts
Have you personally experienced any income loss in the past 12 months due to conflicts between herders and farmers?	1. Yes 2. No
Have you experienced any of the following due to farmer-herder conflicts or concerns in your village : My crops were damaged	1. Yes 2. No

<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>Irrigation or other part of my farm was damaged</p>	<p>1. Yes 2. No</p>
<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>My livestock were stolen</p>	<p>1. Yes 2. No</p>
<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>I suffered a non-livestock theft</p>	<p>1. Yes 2. No</p>
<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>A market where I would sell my products was closed</p>	<p>1. Yes 2. No</p>
<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>A member of my family was assaulted</p>	<p>1. Yes 2. No</p>
<p>Have you experienced any of the following due to farmer-herder conflicts or concerns in your village :</p> <p>Had to move temporarily or permanently</p>	<p>1. Yes 2. No</p>

8.2. Appendix 2: Using an alternative model with one additional independent variable for exposure to conflict (Robustness check I)

Table A1: Individual conflict-affectedness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Income loss	Assault	Had to move	Asset theft	Crop damage	Irrigation damage	Food insecurity	Market closure
No. conflicts 0-15km away	0.013 (0.012)	0.016* (0.009)	0.012* (0.007)	0.025** (0.010)	0.026** (0.012)	0.031** (0.012)	-0.004 (0.009)	0.019* (0.011)
No. conflicts 15-30km away	-0.006 (0.007)	-0.003 (0.004)	-0.001 (0.003)	0.001 (0.005)	-0.010 (0.007)	0.001 (0.006)	0.006 (0.004)	0.007 (0.005)
No. conflicts 30-45km away	0.011** (0.005)	0.003 (0.003)	0.001 (0.002)	0.005 (0.004)	0.007 (0.005)	0.018*** (0.004)	0.004 (0.004)	0.003 (0.003)
No. conflicts 45-60km away	-0.003 (0.005)	0.000 (0.003)	-0.003 (0.002)	-0.002 (0.004)	0.001 (0.005)	0.003 (0.005)	-0.003 (0.004)	0.003 (0.003)
Observations	5,645	5,642	5,639	5,636	5,646	5,644	5,659	5,640
Sample Mean	0.414	0.129	0.111	0.307	0.403	0.321	0.701	0.136

Note: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).

Table A2: Conflict and social aspirations

	(1)	(2)
	Aspired monthly personal Income (Naira) (standardized)	Aspired social status (standardized)
No. conflicts 0-15 km away	0.018 (0.021)	-0.036* (0.020)
No. conflicts 15-30 km away	-0.009 (0.010)	-0.022** (0.011)
No. conflicts 30-45 km away	-0.019** (0.008)	-0.002 (0.009)
No. conflicts 45-60 km away	-0.007 (0.009)	0.007 (0.009)
Observations	5,627	5,662
R-squared	0.163	0.139

Notes: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).

Table A3: Associations between conflict and future-oriented behaviors

	No. conflicts 0-15km	No. conflicts 15-30km	No. conflicts 30-45km	No. conflicts 45-60km	Controls	State fixed effects	Observa- tions
<i>Panel A: Economic behaviors</i>							
Owns an off-farm business, solely	0.029*** (0.010)	-0.002 (0.006)	-0.005 (0.005)	0.006 (0.004)	YES	YES	5637
Owns an off-farm business, jointly with husband	-0.020* (0.010)	-0.000 (0.005)	0.002 (0.005)	-0.004 (0.004)	YES	YES	5637
Has a bank account, solely or with husband	-0.002 (0.013)	0.001 (0.006)	0.000 (0.005)	-0.002 (0.004)	YES	YES	5661
Hours spent on off-farm labor in last week	0.602 (0.456)	-0.592* (0.312)	-0.050 (0.228)	0.166 (0.195)	YES	YES	5662
Hours spent on wage labor in last week	-0.009 (0.439)	-0.397* (0.206)	0.065 (0.192)	-0.126 (0.159)	YES	YES	5662
Hours spent on on-farm labor in last week	-0.559 (0.518)	0.278 (0.231)	0.791*** (0.193)	0.178 (0.152)	YES	YES	5662
<i>Panel B: Social and political behaviors</i>							
Member of a peacebuilding group	-0.003 (0.008)	-0.005 (0.004)	-0.001 (0.003)	-0.009*** (0.003)	YES	YES	5655
Member of a volunteer group	-0.021* (0.011)	0.003 (0.005)	0.000 (0.004)	-0.004 (0.004)	YES	YES	5655
HH engages local protection group	0.027** (0.011)	-0.002 (0.005)	-0.008*** (0.003)	-0.002 (0.003)	YES	YES	5636
Contact government	-0.019***	-0.003	0.001	-0.008***	YES	YES	5662

official	(0.007)	(0.004)	(0.003)	(0.003)			
Attend community meeting	-0.002 (0.011)	-0.002 (0.005)	-0.001 (0.005)	-0.007* (0.004)	YES	YES	5636
Member of a political party	0.026** (0.013)	-0.007 (0.006)	0.002 (0.004)	-0.013*** (0.005)	YES	YES	5655

Note: *** p<0.01, ** p<0.05, * p<0.1. Each row represents a single regression, where the first column displays the outcome variable and only the coefficients on conflict-related variables are shown in the columns. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).

8.3. Appendix 3: Using an alternative model with dummies for conflict exposure (Robustness check II)

Table A4: Individual conflict-affectedness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Income loss	Assault	Had to move	Asset theft	Crop damage	Irrigation damage	Food insecurity	Market closure
Dummy- At least one conflict 0-15km away	0.005 (0.023)	0.014 (0.012)	0.026** (0.011)	0.024 (0.020)	0.021 (0.024)	0.014 (0.022)	0.011 (0.017)	0.024* (0.014)
Dummy- At least one conflict 15-30km away	-0.054** (0.026)	-0.021 (0.013)	0.003 (0.013)	-0.010 (0.020)	-0.059** (0.027)	0.006 (0.022)	-0.002 (0.019)	0.018 (0.014)
Dummy- At least one conflict 30-45km away	-0.011 (0.039)	0.016 (0.018)	0.028* (0.015)	0.008 (0.027)	-0.006 (0.042)	0.074** (0.032)	0.014 (0.032)	0.038** (0.019)
Observations	5,645	5,642	5,639	5,636	5,646	5,644	5,659	5,640
Sample Mean	0.414	0.129	0.111	0.307	0.403	0.321	0.701	0.136

Note: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).

Table A5: Conflict and social aspirations

	(1)	(2)
	Aspired monthly personal Income (Naira) (standardized)	Aspired social status (standardized)
Dummy- At least one conflict 0-15 km away	0.051 (0.040)	-0.081** (0.039)
Dummy- At least one conflict 15-30 km away	-0.058 (0.045)	-0.046 (0.044)
Dummy- At least one conflict 30-45 km away	-0.094* (0.057)	-0.115* (0.060)
Observations	5,627	5,662
R-squared	0.163	0.140

Notes: *** p<0.01, ** p<0.05, * p<0.1. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).

Table A6: Associations between conflict and future-oriented behaviors

	Dummy conflicts 0-15km	Dummy conflicts 15-30km	Dummy conflicts 30-45km	Controls	State fixed effects	Observa- tions
<i>Panel A: Economic behaviors</i>						
Owens an off-farm business, solely	0.049** (0.019)	0.034 (0.021)	-0.048 (0.036)	YES	YES	5637
Owens an off-farm business, jointly with husband	-0.022 (0.018)	-0.025 (0.022)	0.042 (0.039)	YES	YES	5637
Has a bank account, solely or with husband	-0.014 (0.018)	-0.008 (0.018)	0.005 (0.030)	YES	YES	5661
Hours spent on off-farm labor in last week	1.075 (0.992)	0.491 (1.049)	-2.108 (1.729)	YES	YES	5662
Hours spent on wage labor in last week	1.042 (0.772)	-1.301 (0.949)	-0.816 (1.384)	YES	YES	5662
Hours spent on on-farm labor in last week	-2.686*** (0.761)	1.411 (0.873)	3.290*** (1.156)	YES	YES	5662
<i>Panel B: Social and political behaviors</i>						
Member of a peacebuilding group	-0.028* (0.015)	-0.014 (0.017)	0.017 (0.021)	YES	YES	5655
Member of a volunteer group	-0.027 (0.018)	0.024 (0.019)	0.055** (0.027)	YES	YES	5655
HH engages local protection group	0.032** (0.015)	-0.016 (0.017)	-0.029 (0.026)	YES	YES	5636
Contact government official	-0.030* (0.015)	-0.021 (0.016)	0.012 (0.025)	YES	YES	5662
Attend community meeting	-0.008 (0.019)	-0.015 (0.022)	0.013 (0.029)	YES	YES	5636
Member of a political party	0.053** (0.022)	-0.023 (0.024)	-0.020 (0.032)	YES	YES	5655

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Each row represents a single regression, where the first column displays the outcome variable and only the coefficients on conflict-related variables are shown in the columns. All specifications are estimated using OLS and include our full set of controls, as defined in Section 4. Robust standard errors, clustered by ward, are shown in parentheses. We also control for state fixed effects.

Source: ACLED (2021-2023); MNRWBS (2023).