Resettlement and Gender Dimensions of Land Rights in post-conflict Northern Uganda

Sarah Adelman
Amber Peterman
Kim Lehrer
Daniel Gilligan

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Abstract

Evidence from sub-Saharan Africa and other regions shows that even low levels of land conflict may undermine land governance and management, constrain agricultural productivity, and serve as a potential source of persistent violence. Despite substantial donor investments in rebuilding communities in the resettlement of internally displaced peoples (IDP) in Northern Uganda, there is little rigorous evidence on the role of gender in determining land access or potential averse exclusion effects. This study uses empirical modeling to estimate the effect of displacement and resettlement of households on gender-differentiated access to land and land investments in former Lira and Pader districts in Northern Uganda. Data was collected in 2011 building on a panel of households formerly living in 32 IDP camps that were surveyed in 2005 and 2007 as part of a randomized impact evaluation of food for education programs. The empirical strategy relies on exogenous forced displacement of households and conflict exposure to identify the impacts of displacement on land access and investment by returning households. Results will inform policy and programmatic action regarding differences by gender in access to land and land governance implications both in Uganda as well as in similar conflict-related resettlement contexts.

I.   Introduction

Evidence from sub-Saharan Africa (SSA) and other regions shows that even low levels of land conflict may undermine land governance and management, constrain agricultural productivity, and serve as a potential source of persistent violence. Although global interest in land conflict and appropriation has grown considerably in the last decade, particularly around commercial or large-scale land appropriation, empirical research surrounding these dynamics remains limited. Particular gaps exist regarding micro-level conflict involving individuals, often within the same community or family. Although characterizations of such land conflicts vary, narratives typically involve identification of vulnerable groups as marked by poverty or social class, ethnicity, or gender. These dynamics are often deep rooted social and cultural traditions which play out though the experience of economic, political, or natural shocks, including civil conflict. Such is the case in Northern Uganda, where from approximately 2006 to 2010, approximately 2 million internally displaced peoples (IDPs) have resettled on land after up to a decade of displacement due to conflicts perpetrated by the Lord's Resistance Army (LRA). Recent research in the region indicates that access to land is key in determining the timing of resettlement and furthermore, that agriculture is the primary livelihood activity among returnees after resettling (UNDP 2007). Therefore, it is predicted that households' experience in accessing land after leaving IDP camps, as well as their ability to productively use the land, will have important effects on economic stability, agricultural investment and overall welfare in the region.

Despite the attention to land in Northern Uganda and substantial donor investments in rebuilding communities after resettlement, recent reports give little attention to the role of gender dynamics in land access (NRC, Oxfam and IRC 2007; USAID 2007). Although often mentioned as a key "vulnerability," the depth of the gender analysis is limited to a brief discussion or to differentiating impacts by gender of headship and basic descriptive values (Rugadya, Nsamba-Gayiiya and Kamusiime 2008; UNDP 2007; IDMC 2009). As a result, little is known about the importance of the gender dimension of land access during resettlement including potential averse exclusion effects, especially concerning gender dynamics and women's ability to gain access to resources within households. This issue is important not only for

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equity and human rights considerations, but also an important consideration within the larger gender and development literature which points to efficiency and wealth gains based on inclusion of women and women's asset ownership (Abu-Ghaida and Klasen 2004; FAO 2011; Quisumbing 2003).

This study uses quantitative methods to estimate the effect of displacement and resettlement of households on gender-differentiated access to land and exposure to land conflict in former Lira and Pader districts in Northern Uganda. Data were collected in 2011 building on a panel of households formerly living in 32 IDP camps that were surveyed in 2005 and 2007 as part of a randomized impact evaluation of food for education programs. The empirical strategy relies on exogenous forced displacement of households as well as the phased disbandment of camps to identify the impacts of displacement on land access and investment by returning households. Results will inform policy and programmatic action regarding differences by gender in access to land and land governance implications both in Uganda as well as in similar conflict-related resettlement contexts.

II.   The gender, land and conflict nexus

According to the World Development Report (2011), more than 1.5 billion people, or greater than one-quarter of the global population lives in conflict-affected and fragile states or in countries with very high levels of criminal violence.[1] Although the experience of conflict has wide reaching repercussions for human development and economic stability, especially in situations of displacement, land is particularly vulnerable to material loss and subsequent livelihood repercussions. Although there has been a sharp increase in the gender and land literature in the past decade, there remains very little literature in the nexus with conflict situations. In general, the micro-level gender and land literature can be characterized

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[1] Countries affected by fragility, conflict, and violence include those countries with: (1) homicide rates greater than 10 per 100,000 population per year; (2) major civil conflict (battle deaths greater than 1,000 per year, in the period from 2006 to 2009), (3) UN or regionally mandated peace-building or peace-keeping missions; and (4) low-income countries with institutional levels in 2006 to 09 (World Bank's Country Policy and Institutional Assessments less than 3.2), correlated with high risks of violence and conflict. See Uppsala/Peace Research Institute Oslo Armed Conflict Database: http://www.prio.no/CSCW/Datasets/Armed-Conflict/UCDP-PRIO/

by several themes. First, globally, women typically have lower "bundles of rights" in land access and ownership, both legally, and, more often as implemented by customary practice (Gray and Kavane 1999; UN-HABITAT 2006). Second, titling and certification schemes have often been found to have adverse effects on women as compared to men, based on existing power structures (Lastarria-Cornhiel 1997; Whitehead and Tsikata 2003), however, there are some recent indications that joint titling and certification initiatives have been more successful in securing property rights for women (Deininger et al 2010; Holden, Deininger and Ghebru 2011). Evidence surrounding additional policy instruments such as reforming inheritance law and land governance bodies, as well as programmatic work on will writing and legal aid has been mixed (Ali, Deininger and Goldstein 2011; Jacobs, Saggers and Namy 2011). Finally, a growing literature points to the importance of family law and classifications of marital regimes in securing land rights and access for women (Deere and Doss 2006; Kumar and Quisumbing 2010).

Literature on the nexus between gender, land and conflict is limited largely to qualitative studies, technical reports and working papers. A few exceptions exist. Bruck and Schindler (2009) examine smallholder land access in Northern Mozambique and find that female-headed households and households with low asset endowments and social networks experience are disadvantaged as compared to their male-headed counterparts. Deininger and Castagnini (2006) examine the effect of the Land Acts on land conflict in Uganda and find that the probability of experiencing land conflict increases 14 percent for households headed by a widow and 48 percent for households headed by a woman who is separated from her husband. Both Sorenson (1998) and Rose (2004) present ethnographic studies of post-genocide Rwanda noting the changes in household and family structures due to conflict. Although single females are generalized as having lower land access, especially due to the disruption of important social networks, Rose (2004) notes that as women assume the role of household heads, this can also result in certain benefits and freedom as women assume roles such as household heads and economic providers. UNDP published a reader of case studies on women's land rights and conflict including countries such as Burundi, Haiti, Columbia and Palestine among others. Although case studies depict women, and

especially widowed or single women as being chronically disadvantaged, none of the studies include empirical analysis to ascertain if the arguments are based on worse case scenarios, are a phenomena caused by conflict itself, or are simply a byproduct of existing social, cultural and economic factors present pre-conflict (UNDP 2001).

III.   Context

IIIa. Northern Uganda conflict

Between the mid-1980s and approximately 2006, Northern Uganda was the site of an ongoing conflict between the government of Uganda and LRA, a non-sectarian rebel group under the leadership of Joseph Kony. While the purported aim of the LRA was the overthrow of the Ugandan government, the group's political and ideological philosophy remains poorly defined. In 1986, the overthrow of the existing president led to widespread discontent in Northern Uganda, thus paving the way for the emergence of the LRA's military insurgency. Civil unrest continued over the next 20 years in Northern Ugandan districts, including Pader, Gulu, Lira, Amuru, Kitugum, Kotido and extending to the Eastern districts of Soroti, Kaberamaido, Kumi, and Katakwi.

The conflict in Northern Uganda gained global attention in part due to the LRA's brutal tactics of war, which centered on terrorizing local civilian populations through coordinated raids, mutilations, rapes, killings and abductions of children and adults (particularly to serve as soldiers). More recently, the LRA has been the subject of media attention due to the outstanding International Criminal Court warrant on leader Joseph Kony and international push for his capture and imprisonment. Ultimately, the conflict would devastate social services and physical infrastructure in the region, kill an estimated 300,000 civilians and displace up to two million people or approximately eighty percent of the Northern population into government sanctioned IDP camps (ICG 2004). Though IDP camps were able to provide a greater degree of security against the LRA rebels, camps were characterized by rampant diseases, lack of food, water, shelter and livelihoods.

Between 2006 and 2008 a series of peace talks between the government of Uganda and the LRA were held in Juba Southern Sudan. The Juba Peace Talks, which initially appeared promising, produced a cease fire in September of 2006, however Kony refused to sign an eventual peace agreement in 2008. Nonetheless, by the 2006 cease fire the government of Uganda had largely succeeded at ousting the LRA from Northern Uganda into Sudan, the Central African Republican and the Democratic Republic of Congo. Though Kony is believed to be at large in a neighboring African nation, the security situation in Northern Uganda has more or less stabilized. As the security situation in Northern Uganda improved, a resettlement process started whereby displaced people began returning to their homes and return to economic sustainability, mainly through agriculture, livestock and small business.

IIIb. Gender and land in Uganda

Despite recent reforms adopting fairly liberal land policies with respect to women's rights (Government of Uganda 1999; 2003), women are still minority owners of land in Uganda, with percentages of female owned and female controlled plots of less than 10 percent (Deininger and Castagnini 2006). The customary tenure system that is dominant in Northern Uganda in a patrilineal inheritance structure which gives preference to male kin in transfer of land rights and has been associated with discrimination of marginalized groups, including women (Rugadya, Nsamba-Gayiiya and Kamusiime 2008). Despite this, women continue to play an essential role in the countries agricultural sector.

IV.   Framework and methodology

IVa. Framework

The effect of conflict-related displacement on land outcomes fits within a larger framework modeling the effect of shocks on welfare and assets. Shocks are largely-unanticipated events affecting economic behavior or outcomes that can be either negative, such as the death of a household member or crop failure, or positive, such as good weather or an increase in the price of cash crops. Shocks are categorized either as aggregate, meaning they affect most people in a community at the same time (such as adverse

weather or high input or consumption good prices), or idiosyncratic, meaning they affect only certain people within a community (such as death or severe illness, theft, or isolated crop disease) (Dercon 2010). There is a well-established literature on the impact of shocks on household assets in developing countries (Lybbert et al. 2004; Carter and Barrett 2006; Barrett et al. 2006; Naschold 2006, 2008). In particular, the literature shows that shocks often reduce asset holdings either because of a direct loss of the asset from damage or expropriation or because the household sells the asset to cope with the consequences of the shock.

Shocks themselves can be gender-specific if their occurrence is either exclusively or more likely to affect women or men, such as maternal mortality or gender-based violence. However, more often, *shocks* are gender-neutral but behavioral responses or effects of shocks are gender-specific. For example a drought will be experienced by all farmers within a given community on an identical level, however stylized generalizations would predict that women farmers (as compared to men) may modify behavior in *anticipation* of a drought because they are more risk adverse or because they feel more responsible for fulfilling their households food needs. Women may also be more susceptible to hunger following a drought because they may start with a lower asset profile. Historically, research on gender-specific effects on shocks has been limited by data availability of disaggregated asset information and gender-specific shock indicators. Recently there has been an extension of the shock and asset literature to examine gender-specific shocks, including effects of negative and positive shocks in Uganda and Bangladesh (Quisumbing, Kumar and Behrman 2011), and gendered effects of shocks, including food price crises in Ethiopia (Kumar and Quisumbing 2011).

Conflict-related shocks can affect total household land holdings and the value or productivity of households' land. During conflict, households may be forced away from their land or be unable to use their land, as was the case in Northern Uganda. When land rights are not well-defined, over time, households may lose use-rights through expropriation, particularly if they delay resettlement. Moreover, conflict and displacement have been associated with a general breakdown of social structures, including

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clan cohesion and leadership structures that previously governed land use rights. Tenuous use-rights following resettlement, which may be realized through land disputes, may also affect investments in land, leading to declining soil quality or low yields.

While conflict and displacement are typically aggregate shocks, households' exposure to and response to conflict and displacement vary on numerous dimensions, including timing of displacement, length of displacement, direct injury from conflict, disease, abduction, impacts on family and social cohesion and availability of economic or social resources to respond to the conflict. The effects of conflict-related shocks on land access and value may also vary by gender. Most likely these differences will arise through gender-differentiated behavioral responses to conflict and displacement. For example, it is possible that women may be less likely than men to continue farming land while displaced because of security concerns, making land more vulnerable to expropriation by parties who face lower risk. Similarly, women may be less likely than men to resettle immediately after the end of conflict, either because they have fewer resources or because childcare or domestic obligations make them less mobile. In the case of land specifically, it may be expected that women who find themselves widowed because of spouse mortality may be less likely to return to land either due to perceived or actual lack of claim to land rights. Hence, women may suffer from a "late mover" disadvantage in access to land or high-quality land.

IVb. Data

The household survey data utilized in this analysis is a unique panel collected starting in 2005 as a collaborative effort between IFPRI, Oxford University, Mt. Holyoke College and the School of Public Health at Makerere University in Kampala. The original objective of the data collection was to evaluate the impact of a World Food Program (WFP) food assistance intervention aimed at primary aged children attending schools in 32 IDP camps in former Lira and Pader districts. In 2005, a baseline survey of approximately 930 households were randomly sampled from families with children of primary school age

(between six and 17). Thereafter, households were resurveyed in 2007, at which time roughly 70 percent

of sample households had moved due to disbandment of the camps. A third wave of data collection took

place from July to August 2011 to revisit the original households and track any members who had moved

in the region with the primary objective of examining gender, land and resettlement issues. Fieldwork was

conducted in two waves. First, a tracking survey was fielded to determine both location of original

households as well as the existence and location baseline (2005) household members who had formed

new households (split households). Following this exercise, a household survey was fielded to capture

household demographics, education, consumption, assets, information on land and detailed modules

collecting the timing and experience of displacement into IDP camps and subsequent resettlement. The

household survey included GPS area measurements for plots and was fielded using CAPI software. In

addition, a qualitative and formative study was undertaken prior to the 2011 wave of data collection to

help conceptualize households' experience in resettlement and dynamics surrounding gender and land

conflict in this area. Details of the qualitative fieldwork are found in Behrman (2012) and will be

discussed in subsequent sections in relation to the results of this analysis.

IVc. Methodology

Basic Model and Measurement

A basic empirical model of the gender-differentiated impact of displacement on land-related outcomes is

presented below:

$$(1)\ Land = \beta_0 + \beta_1(\text{Gender}) + \beta_2\,(\text{Displaced}) + \beta_3\,(\text{Gender* Displaced}) + \beta_4\,(X_h) + \beta_5\,(X_l) + \varepsilon_{it}\,.$$

Land represents one of four outcomes: 1) Area of land holdings, measured as the log in acres[2], 2) Farmer

estimated value of land holdings, measured in log of USD equivalent, 3) experience of land-related

disputes, as a binary indicator where (=1) indicates the household or plot has been disputed, and 4)

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[2] In this analysis we use farmer estimate of land area, however later robustness checks will include GPS area measurements.

percentage of land lost to dispute or 'property grabbing' (as a percentage in area and value as measured above). These outcomes are modeled as a function of a binary indicator for the gender (*gender*) of the head of household or plot owner, [3] a variable capturing displacement experience (*displace*), an interaction term between gender and displacement experience, as well as a vector of household-level characteristics (X_h), land-specific characteristics (X_l) and a random error term (ε_{it}). Equation (1) is modeled alternatively on the household level at aggregate as well as on a plot specific basis.

The displacement variable can be constructed a number of different ways and will capture different aspects of households' and individuals' displacement experience. In this paper, we model displacement as the distance between the household's home and the camp to which it was displaced and as the number of months the household experienced displacement. Within the framework discussed above, distance can affect how often a household can access its land during displacement, which could help to secure land rights upon return. Moreover, the costs of resettlement are lower when land is easy to access. Therefore, closer households may have been better-poised as first-movers in resettlement. Length of displacement is indicative of two causal pathways through which conflict can impact subsequent access to land and to the value of land holdings. First, when conflict leads to longer displacement, the institutional memory of land boundaries may be lost and there may be more turnover or change in stakeholders as households grow, split or move or as governing agents change. Second, long displacement also may be indicative of more insecurity in the area, which would limit how often people could access their land, hence reestablish use-rights, during displacement.

The coefficient of the interaction between gender and displacement (β_3) will allow us to measure how the effect of displacement on land outcomes interact with the gender of the household head or plot owner. Alternative indicators include the distance displaced and the severity of the displacement experience as measured by negative shocks including death of household members, violent attacks and abductions. Future sensitivity analysis will include these robustness checks.

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[3] Subsequent analysis will include robustness checks using the self-identified manager of the plot constructed using the same method as self-identified owner. It is expected that plot management will reflect more closely the individual who spends most time working on the plot and in control of resource allocation and productive outputs.

The vector of household-level control variables included in the model (X_h) are the age, education and marital status of the household head, number of household members. The vector of land-specific control variables included in the model (X_l) are tenure status of the land (average or plot-specific), land acquisition and land quality indicators, and average distance to homestead of land in logged kilometers. All models include district dummies and robust standard errors clustered at the former IDP camp level.

Identifying Conflict Impacts

Strict modeling of the effect of displacement on land and how this varies by gender may bias estimates of gender differentiated displacement effects. Men and women may have different access to land or investment patterns independent of the conflict due to a number of unobserved characteristics—such as customs in the area, discrimination, socioeconomic status. These unobserved characteristics may also be related to experiences of conflict and behavioral responses to events such as displacement or conflict exposure (as noted above). Thus it is difficult to determine whether differential land outcomes for men and women post conflict are due to differential conflict experiences or to underlying factors that exist independent of the conflict. This endogeneity will be a potential factor whether or not the gender stratification is done at the level of household head or stratified by women and men within the same household.

This analysis uses distance displaced and length of displacement as a source of variation in conflict exposure. While there are clear direct pathways through which distance displaced and displacement length impact land outcomes, land access and value may vary with respect to these measures in endogenous ways as well. For example, households may be displaced for longer because they delay resettlement. Resettlement often involves costly upfront investments as homes or other assets left behind may have been destroyed, leaving poorer or otherwise more vulnerable households to in camps. Late movers may lose their claim on previously-owned land to those who are ready to resettle earlier.

Finally, households may delay resettlement *because* they have lost access or have disputed access to land. If these concerns differentially impact men and women, variation in length of displacement may reflect underlying characteristics of a household or individual in addition to differing exogenous conflict experiences.

However, much of the variation in households' exposure to the conflict and displacement in Northern Uganda was completely out of households' control and largely unanticipated (a pure "shock"). Such factors had significant impacts on the length of displacement, but had no direct impact on land access at the individual or household level upon resettlement. For example timing of displacement arose as a consequence of sudden and unanticipated changes in security, which was out of households' control, yet it strongly predictive of how long a household was displaced. By isolating exogenous variation in households' exposure to conflict that affected length of displacement but not subsequent land access, we are able to instrument for length of exposure and hence to isolate both the impact of the conflict itself as well as how this impact differs by gender. Instruments include the timing of displacement, which did not vary with observable household characteristics (Lehrer 2009; Adelman, Gilligan, and Lehrer, 2011), and factors affecting when the majority of households would resettle (such as the end of food aid or camp closure) that did not vary in ways that would affect household access to land.

V.   Results

Va. Descriptive statistics

Approximately 1122 households were surveyed in the 2011 round of data collection including 758 and 363 split households.[4] Table 1 presents key household-level indicators used in this analysis, including outcomes variables and indicators related to displacement. Results are presented in aggregate and by gender of the head of household (24 percent of households in this sample are headed by females). On

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[4] After accounting for missing values for some controls, the analysis was conducted on 1109 households (756 original households and 353 split households).

average households hold 3.5 distinct plots of land totaling 6.86 acres. The total value of land held by a household averages $1797 ($US 2011) and total crop value (across all plots) is approximately $224. Female-headed households hold less land than male-headed households in terms of total number of plots, total area and total value. While the average crop value for male-headed households is 64% larger than for female-headed households, this difference is not statistically significant. However, the logged crop values are significantly different at the 5% level, suggesting that female-headed household do have lower-valued harvests than male-headed households.

Twenty-nine percent of households had a dispute about one or more plots that they currently own or lost in dispute since displacement began in this region. Eight percent of households had a plot that they lost control over during displacement or resettlement. As a result, households experiencing at least one dispute lost $338 in property (including the value of land lost, buildings, crops, etc.). Female-headed households were significantly more likely to have experienced a dispute or loss (33.8 percent compared to 27.5 percent of male-headed households). However, there is no significant difference in the size or value of land lost between male and female households. This is not surprising since the baseline quantity and value of landholdings were lower for female-headed households (they had less to lose).

On average households were displaced for just under 4.5 years (52.75 months). While observable household characteristics are uncorrelated with displacement date (see Lehrer 2009, Adelman et al. 2011), there does appear to be some variation in overall length of displacement across household types. For example, households that are currently male-headed returned home on average 2.3 months before female-headed households.

In Table 2 we present descriptive statistics for the control variables at the household and plot level. On average, household heads are 44 years of age, with female-heads of household roughly 9 years older than male-heads. Male heads on average had just over seven years of education, while female heads had slightly over one year less than males. Average household size overall is 6.65, however male-headed households have on average 1 more person than female headed households. Nearly three-quarters of household heads are married in traditional or religious marriages. Marriages can be polygamous or

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monogamous in Northern Uganda; 28 percent of marriages are polygamous. Male heads of households are likely to be in traditional or religious marriages than female heads (89.3 percent of male-headed households compared with 19.8 percent of female-headed households). Meanwhile, female-heads of household are more likely to be widowed (64 percent compared with 1.5 percent) or divorced (13.36 percent compared with 1.3 percent).

Finally, to help contextualize the analysis, we present opinions on gender and land ownership in Table 3. The module was randomized to be administered to either an adult male or adult female regardless of gender of headship. The first series of questions focus on if the respondent thinks that women in different categories of marital status should have equal legal ownership and access to land as compared to men. Results show that approximately 72 percent of women and approximately 66 percent of men believe that women in traditional marriages (or those for which brideprice has been paid), should have equal rights as men. These results are very similar for opinions of women in a religious marriage, or a marriage which has undergone a church or religious ceremony. However, these opinions drop drastically when women in cohabiting relationships are considered (those for which brideprice has not been paid) or when considering women who are divorced or separated (approximately 10 to 11 percent among women and eight to six percent among men believe women should have equal rights to men). Widows are also thought of as having restrictive land ownership and access and these percentages are not significantly different between men and women respondents. Finally approximately 29 percent of women and approximately 23 percent of men believe that girls and boys should have the same land inheritances if they are orphaned. The second set of questions refers to land administration arrangements. Results show that although it is widely accepted that women should be represented on the land committees on the village, subcounty and district level (93 and 92 percent of women and men agree respectively), only 78 percent of women and 66 percent of men agree that there should be equal representation. These statistics show that not only are there gender differences in land opinions, but there exist a sufficient amount of discrimination in norms and opinions around land rights and ownership towards women, and especially women who are widowed, divorced and in cohabiting relationships.

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Vb. Main regression results

Access to land and land disputes can arise post-conflict both due directly to the conflict or through established traditions that play out within the conflict setting. Table 4 presents OLS estimates of the effects of displacement and of gender of the household head on four land outcomes. The severity of displacement exposure, as measured by the distance from home to camp, had no significant impact on household land holdings in terms of area or total value. However, being in a camp far from home significantly increased the likelihood that a household experienced a land-related dispute or loss. Moreover, distance also contributed to total monetary losses related to land disputes, including land, property on that land, and crops lost in a dispute. These findings may reflect the difficulty that households living far from home had in accessing their land during the conflict or have been delayed in fully resettling, which may have increased the likelihood that plots were expropriated. Still, as there appears to be no affect of this displacement measurement on total land holdings or values, it is possible that households experiencing dispute due to distance have adjusted or lost only a small share of their total land assets.

Female-headed households, on average, hold 26.9 percent less land than male-headed households, though there is no detectable difference in the total value of that land. Female-headed households were 7.9 percentage points more likely than male-headed households to experience a land dispute during displacement or resettlement and lost more on average than male-headed households. These findings may reflect that land rights are granted typically to males, so women typically have control over fewer land resources and may be subject to more disputes given that their use rights may be less secure.

Table 5 presents the same outcomes, but includes an interaction term that shows the differential impact of displacement on female-headed households compared with male-headed households. In this table, the coefficients on distance from home to camp show the impact of the displacement on the land outcomes for male-headed households, while the interaction term can be used to test whether or not this

effect was the same for women. The results largely suggest that the effect of the displacement, at least on this dimension, were similar for women and for men. Including the interaction term does yield an unexpected result, in that being displaced further from your home actually increases land holdings for men, though not for female-headed households. This may reflect a larger initial endowment for households farther from the camp, and suggests that an instrumental variables approach is necessary to detect a causal relationship between this variable and land holdings (estimates forthcoming).

Vc. Robustness checks and extensions

As previously mentioned, a number of extensions and robustness checks will be included in later versions of this analysis. For example, we will extend the analysis to look at other types of variation in displacement exposure, such as length of displacement (as discussed in the methods section) and exposure to violence. The analysis will also expand to look at how land access relates to changing household structure during displacement. Most importantly we will present our plot-level analysis that will allow us to look at within household dynamics with respect to ownership and use of land.

IV. Discussion and conclusion

The human capital and welfare effects of experience of conflict are widespread and poorly understood. This gap in understanding is driven by several factors, including lack of data appropriate for analyzing dynamics to produce casual evidence. Another limitation is the uniqueness of conflict situations, in which household and individual's experience plays out in different ways. We utilize a panel of former IDPs who were resettled over the last five years in Northern Uganda to analyze dynamics around land ownership with particular attention to gender. With respect to gender, female-headed households were more likely to experience land disputes or losses and lost more than male-headed households, even after controlling for covariates such as age, gender, and marital status. Likewise, we find that conflict-related displacement

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has differential affects on access to land depending on displacement distance. Households in camps that were farther from their original homes experienced more disputes and more dispute-related losses. As households typically went to the nearest camp, and camp placement does not appear correlated with many household observables (Lehrer 2009), at least some of this relationship may be causal, however, forthcoming instrumental variables estimates will help to tease out a causal relationship. We did not detect any significant differences between male- and female-headed households in the effects of displacement distance on land outcomes.

The analysis has several limitations. First, we do not have a true "control" group within the sample as all of our original households were displaced into IDP camps. Therefore, we are modeling gender differences in the duration or severity of exposure to the displacement and conflict "shock" rather than the effect of any exposure to the shock. This means we are unable to identify the generalized disadvantage or effects of the conflict in Northern Uganda in comparison to households or individuals living in other regions of Uganda with similar initial characteristics. In addition, we are limited by sample size, as some of the nuanced distinctions qualitative literature has found to be important around marital regimes are not large enough to analyze sufficiently, especially at the household level. For example, we cannot identify the differences between single, divorced, or formal religious marital status by displacement experience through interaction terms, because these percentages account for a relatively small percentage of the total marital regimes within our sample. Finally, in Northern Uganda, as with many conflict situations, there are context specific factors that limit the generalizability of results.

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VII. Tables in Text

Table 1: Descriptive Statistics for Key Indicators

	Mean	Std. Err.	Male-headed households Mean	Std. Err.	Female-headed households Mean	Std. Err.	
Female-Headed Household	23.73	1.27	.	.	.	.	
Current Land Access and Values							
Current Land Area (acres)	6.86	0.32	7.22	0.37	5.77	0.65	**
Log Land Area	1.42	0.03	1.50	0.04	1.24	0.06	***
Plot Value ($US)	1796.87	47.90	1914.29	56.98	1441.12	81.28	***
Log Plot Value	6.72	0.07	6.83	0.08	6.52	0.14	***
Crop Value ($US)	223.73	46.97	247.12	58.89	150.80	58.66	
Log Crop Value	2.70	0.11	2.83	0.13	2.38	0.22	**
Disputed Land							
Any Dispute	28.99	1.36	27.49	1.53	33.97	2.93	*
Area of Land Lost	0.48	0.11	0.51	0.14	0.36	0.08	
Direct monetary losses due to dispute	97.94	10.81	93.96	12.65	106.44	20.14	
Log monetary losses	-3.30	0.11	-3.42	0.12	-2.94	0.24	*
Displacement							
Months Displaced	52.75	0.74	52.19	0.85	54.48	1.48	
Months since returning	53.19	0.47	53.74	0.53	51.41	0.98	**
Distance Displaced	4.95	0.41	5.05	0.53	4.63	0.27	
Camp population (10,000s)	1.91	0.04	1.91	0.05	1.92	0.08	
Camps never attacked (%)	30.51	1.38	30.97	1.59	29.01	2.81	
Sample Size	1109.00		847.00		262.00		

Table 2a: Descriptive Statistics for Household Control Variables

	Mean	Std. Err.	Male-headed households Mean	Std. Err.	Female-headed households Mean	Std. Err.	
Age of household head	44.14	0.47	42.02	0.50	51.11	1.03	***
Education of household head (yrs)	7.23	0.09	7.54	0.10	6.23	0.20	***
Household size	6.65	0.08	6.95	0.09	5.75	0.14	***
Single head of household (%)	1.78	0.40	1.64	0.43	1.91	0.85	
Divorce head of household (%)	4.19	0.60	1.29	0.39	13.36	2.11	***
Widowed head of household (%)	16.24	1.10	1.52	0.42	63.74	2.98	***
Cohabiting head of household (%)	5.53	0.68	6.90	0.87	1.15	0.66	***

Table 2b: Descriptive Statistics for Land Control Variables

	Mean	Std. Err.	Male-headed households Mean	Std. Err.	Female-headed households Mean	Std. Err.	
Plot topsoil is shallow (<20cm)	4.57	0.40	4.77	0.46	3.90	0.75	
Plot topsoil is deep (>50cm)	4.35	0.43	4.41	0.48	4.18	0.89	
Land on hill, slope or valley	40.58	0.67	39.12	0.76	45.30	1.41	***
Distance from homestead to plot	1.83	0.19	1.81	0.21	1.92	0.44	
Distance from homestead to plot (log)	-1.20	0.06	-1.13	0.07	-1.43	0.13	**
Pader District	49.68	1.50	49.82	1.72	49.24	3.09	
Sample Size	1109.00		847.00		262.00		

Table 3: Household level land ownership and access opinions, by gender	Proportion of respondents answering "Yes"		
In your opinion:	Females (n=744)	Males (n=377)	Difference
(1) Should married women in a traditional marriage have equal legal ownership and access to land as compared to men?	0.72	0.66	*
(2) Should married women in a religious marriage have equal legal ownership and access to land as compared to men?	0.73	0.68	**
(3) Should married women in a cohabiting relationship have equal legal ownership and access to land as compared to	0.11	0.08	NS
(4) Should divorced and separated women retain the same ownership and access to land as their former husbands/ partners?	0.10	0.06	**
(5) In your opinion should widowed women retain ownership and access over the land of her late husband?			
Yes in all cases	0.02	0.02	NS
Yes if she has any children	0.07	0.08	NS
Yes if she has sons	0.01	0.01	NS
No in all cases	0.90	0.89	NS
(6) In your opinion should girls and boys receive the same amounts of land as inheritance if their parents die?	0.29	0.23	**
(7) In your opinion is it important that women be represented in the land committees at the village, district and/or sub county level?	0.93	0.92	NS
(8) In your opinion should women be equally represented in the land committees at the village, district and/or sub county level?	0.78	0.66	***
Note: This model was randomized to be administered to either an adult male or female if available regardless of gender of headship or default respondent. If an individual of the target sex was not available, the module was administered to an adult of either sex.			
* significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level			

Table 4: Regression of Land Outcomes on Displacement and Gender

VARIABLES	(1) Log Area (Acres)	(2) Log Land Value (USD)	(3) Any Dispute	(4) Log Amount Lost (USD)
Distance from home to camp	0.03	0.01	0.0415**	0.258*
	[0.0369]	[0.0781]	[0.0196]	[0.133]
Female Head	-0.269**	-0.09	0.0790*	0.802**
	[0.104]	[0.227]	[0.0433]	[0.380]
Control variables				
Age Head	0.0327***	0.0416*	0.0125***	0.0962**
	[0.0106]	[0.0243]	[0.00446]	[0.0409]
Age Head Squared	-0.000227**	0.00	-0.000111**	-0.000826*
	[0.000102]	[0.000246]	[4.18e-05]	[0.000416]
Education Head (years)	0.01	0.01	-0.01	-0.03
	[0.00891]	[0.0254]	[0.00550]	[0.0458]
Household Size (log)	0.249***	0.15	0.08	-0.04
	[0.0795]	[0.139]	[0.0463]	[0.404]
Widow	-0.06	-0.30	-0.04	-0.886*
	[0.141]	[0.279]	[0.0454]	[0.435]
Divorced or Single	0.04	-0.807**	-0.04	-0.980*
	[0.130]	[0.389]	[0.0631]	[0.484]
Cohabiting	-0.08	0.00	-0.05	-0.38
	[0.145]	[0.267]	[0.0545]	[0.345]
Plot topsoil is shallow (<20cm)	-0.16	0.15	-0.04	-1.01
	[0.156]	[0.254]	[0.109]	[0.730]
Plot topsoil is deep (>50cm)	0.441**	0.769*	0.01	-0.33
	[0.195]	[0.418]	[0.0836]	[0.609]
Land on hill, slope or valley	-1.206***	-1.938***	0.08	2.173***
	[0.203]	[0.432]	[0.0567]	[0.467]
Distance from homestead to plot (log)	0.0949***	0.0941**	0.0243***	0.189***
	[0.0139]	[0.0365]	[0.00618]	[0.0399]
Alebtong District	-0.21	0.19	-0.15	-1.61
	[0.291]	[0.336]	[0.137]	[1.288]
Lira District	-0.22	-0.18	-0.17	-1.99
	[0.295]	[0.443]	[0.129]	[1.227]
Pader District	0.10	-0.15	-0.16	-1.54
	[0.297]	[0.342]	[0.133]	[1.283]
Otuke District	0.00	0.36	-0.07	-0.73
	[0.327]	[0.344]	[0.135]	[1.161]
Constant	0.687*	6.351***	-0.03	-4.861***
	[0.395]	[0.587]	[0.183]	[1.538]
Observations	1088.00	1088.00	1088.00	1088.00
R-squared	0.28	0.09	0.05	0.06

Robust standard errors in brackets
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5: Regression of Land Outcomes on Displacement and Gender

VARIABLES	(1) Log Area (Acres)	(2) Log Land Value (USD)	(3) Any Dispute	(4) Log Amount Lost (USD)
Distance from home to camp	0.0733*	0.04	0.0446**	0.250*
	[0.0410]	[0.0905]	[0.0193]	[0.136]
Female Head	-0.06	0.05	0.10	0.76
	[0.163]	[0.404]	[0.0720]	[0.557]
Distance from home to camp*gender	-0.163*	-0.11	-0.01	0.03
	[0.0923]	[0.207]	[0.0460]	[0.333]
Control variables				
Age Head	0.0320***	0.0411*	0.0124***	0.0964**
	[0.0107]	[0.0242]	[0.00449]	[0.0406]
Age Head Squared	-0.000222**	0.00	-0.000110**	-0.000827*
	[0.000104]	[0.000245]	[4.21e-05]	[0.000413]
Education Head (years)	0.01	0.01	-0.01	-0.03
	[0.00887]	[0.0255]	[0.00552]	[0.0455]
Household Size (log)	0.253***	0.15	0.0784*	-0.04
	[0.0804]	[0.140]	[0.0462]	[0.402]
Widow	-0.05	-0.29	-0.04	-0.887*
	[0.139]	[0.276]	[0.0456]	[0.434]
Divorced or Single	0.05	-0.799**	-0.04	-0.982**
	[0.130]	[0.391]	[0.0634]	[0.476]
Cohabiting	-0.09	0.00	-0.05	-0.38
	[0.145]	[0.268]	[0.0546]	[0.349]
Plot topsoil is shallow (<20cm)	-0.17	0.14	-0.04	-1.00
	[0.158]	[0.254]	[0.108]	[0.730]
Plot topsoil is deep (>50cm)	0.430**	0.761*	0.01	-0.33
	[0.192]	[0.416]	[0.0837]	[0.610]
Land on hill, slope or valley	-1.207***	-1.938***	0.08	2.174***
	[0.204]	[0.432]	[0.0567]	[0.467]
Distance from homestead to plot (log)	0.0934***	0.0931**	0.0242***	0.189***
	[0.0139]	[0.0361]	[0.00618]	[0.0400]
Alebtong District	-0.21	0.19	-0.15	-1.61
	[0.288]	[0.343]	[0.137]	[1.288]
Lira District	-0.22	-0.18	-0.17	-1.99
	[0.292]	[0.448]	[0.129]	[1.227]
Pader District	0.10	-0.15	-0.16	-1.54
	[0.295]	[0.349]	[0.133]	[1.282]
Otuke District	0.01	0.36	-0.07	-0.73
	[0.324]	[0.349]	[0.135]	[1.161]
Constant	0.64	6.322***	-0.03	-4.852***
	[0.395]	[0.594]	[0.182]	[1.534]
Observations	1088.00	1088.00	1088.00	1088.00
R-squared	0.28	0.09	0.05	0.06

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1