# Conflict-Induced Displacement, Understanding the Causes of Flight

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This study investigates circumstances that affect individuals' decisions of whether or not to flee their homes during civilian conflicts. Building on the "choice-centered" approach to studying forced migration, I test the argument that people make a decision to flee or stay even under highly dangerous circumstances. Using primary data collected through a public opinion survey in Nepal, I test a number of hypotheses regarding the impact of factors such as violence, economic opportunity, physical infrastructure or geographical terrain, and social networks on forced migration, providing an individual-level test of the choice-centered approach to studying forced migration. The empirical results are consistent with the major hypotheses developed in aggregate-level studies and provide better insights into the factors that affect individual-level behavior. Beyond conflict, there are a number of significant economic, social, physical, and political factors that affect individuals' choice to flee.

his research investigates the circumstances under which individuals decide whether or not to abandon their homes in the face of civilian conflict. Most existing research on forced migration uses aggregate-level data to test individual-level behavior, arguing that people have a choice either to leave or stay even under highly adverse circumstances (Davenport, Moore, and Poe 2003; Edwards 2009; Melander and Öberg 2006, 2007; Moore and Shellman 2004, 2006, 2007). This "choice-centered" view makes a significant contribution in laying a theoretical foundation for analyzing forced migration. However, little is known at the individual level about why some people choose to stay while others choose to leave. I use primary data, collected through a public opinion survey conducted in Nepal, and apply data-matching techniques and probit analysis to test for the significance of a number of potential causes of displacement. More specifically I ask: beyond violence, what other economic, social, political, and physical factors impact individuals' choices to flee or not in the context of civil war? The present study adds value to existing large-ncross-national analyses by providing a more refined test of the choice-centered approach to the study of forced migration.

# **Prior Research**

While most scholars agree that violence or war in general generates threat, forcing people to make a difficult choice of whether or not to leave their homes (Davenport, Moore, and Poe 2003; Edwards 2009; Hakovirta 1986; Melander and Öberg 2006; Melander, Öberg, and Hall 2009; Moore and Shellman 2004, 2006, 2007; Schmeidl 1995; Zolberg, Suhrke, and Aguayo 1989), there is some disagreement as to the scope and nature of conflict required to trigger forced migration. For example, Schmeidl (1997) and Zolberg, Suhrke, and Aguayo (1989) suggest that international war is a potential cause of refugee flow. However, Davenport, Moore, and Poe (2003) and Melander and Öberg (2006) conclude that a country's participation in international war is not a significant predictor of forced migration. On the other hand, Moore and Shellman (2004) find that the presence of foreign troops in a country is a significant predictor of forced migration. Scholars have also analyzed the impact of violence perpetrated by the government versus violence by the rebel side and find that both are significant predictors of displacement (Apodaca 1998; Davenport, Moore, and Poe 2003; Gibney, Apodaca, and McCann 1996;

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Jonassohn 1993; Rummel 1994; Schmeidl 1997; Moore and Shellman 2004, 2006).

Scholars of large-*n* analyses also argue that economic opportunity, measured in terms of the level of economic development and poverty in the countries of origin and destination, is associated with forced migration (Davenport, Moore, and Poe 2003; Moore and Shellman 2004, 2006, 2007; Schmeidl 1997; Zolberg, Suhrke, and Aguayo 1989). However, the empirical results are mixed. Davenport, Moore, and Poe (2003) and Melander and Öberg (2006) use GNP and GDP per capita as proxies for economic opportunity but do not find them to be significant predictors of forced migration. On the other hand, Schmeidl (1997) finds that countries with higher levels of economic development, measured by per capita energy consumption, tend to produce fewer refugees. Moore and Shellman (2004) also report that countries with higher GNP per capita produce significantly fewer forced migrants than countries with lower per capita GNP, suggesting that people are less likely to flee from their homes if economic opportunities are available. Some statistical analyses conducted at household and individual levels also report that beyond violence, there are important socioeconomic factors that affect individuals' decision of whether or not to flee (Bohra-Mishra and Massey 2011; Engel and Ibáñez 2007; Ibáñez and Vélez 2008), though these studies are very limited in scope.

Prior research has also pointed out that displacement networks may be associated with forced migration. Scholars here tend to follow two arguments. One group claims that past displacement leads to more displacement at the present or in the future (Davenport, Moore, and Poe 2003; Edwards 2009; Moore and Shellman 2004, 2007; Schmeidl 1997), arguing that people who have moved in the past transmit information about their journey and place of destination to their friends and families back home; friends and family then feed this information into their decision equation of whether to stay or leave, and they flee if the associated risk of fleeing is lower than that of staying. The second argument regarding the relationship between networks and forced migration is that people care about their place of birth and personal belongings, and therefore, they develop alternative mechanisms that allow them to stay put. Networking through social and community organizations is one such mechanism. According to this argument, civil war reconfigures societies, changing the roles of existing social networks while also creating new ones (Colletta and Cullen 2000; Harpviken 2009; Varshney 2002; Wood 2008), offering some individuals enough security that they choose to stay.

Finally, empirical findings on the impact of a country's physical infrastructure and geographic features on forced migration are inconsistent. For example, Schmeidl (1997) tests for the impact of flight facilitators measured by the number of countries that share a border with the refugee-producing country and the proportion of shared land border relative to total country border, as well as the impact of obstacles measured by presence or absence of mountains, forests, deserts, and islands (296). Both types of facilitators were found insignificant in predicting refugee flows (304). Moore and Shellman (2006) report that transaction costs, measured by distance and terrain, do not prevent forced migration. Czaika and Kis-Katos (2009) use a measure of the presence/absence of "bus or train station, airport, or seaport in the village" to measure transportation costs (408), finding mixed evidence in support of the argument that transportation costs play a role in impacting displacement decisions.

In sum, existing theory on forced migration suggests that when confronted with conflict, people tend to stay in their homes and villages when the opportunity cost of fleeing, measured in terms of forgone economic opportunity at the place of origin as well as one's attachment to home, outweighs a physical threat to life. What is missing from the literature, however, is a more in-depth analysis of the impact that these factors have at the individual rather than the aggregate level. Factors such as threat, realized or perceived by individuals, as well as an individual's wealth, economic opportunities, social situation, and political affiliation may all impact an individual's decision to stay or leave during civil war. Use of microlevel data offers a unique opportunity to provide a more refined test of the causes of forced migration examined largely at the aggregate level in existing literature.

## Theoretical Framework and Research Hypotheses

Although the rationalist explanation has made a significant contribution to our understanding of factors explaining forced migration, existing research is largely limited to large-n analyses using national-level data, which assume that individuals across a country are uniformly affected by aggregate-level violence. Recent research on forced migration has pointed out that there is "variance" in how individuals assess risks emanating from the general environment of conflict and their degree of attachment to home (Edwards 2009). I advance current research by testing existing hypotheses at the individual level, as well as identifying new hypotheses that can only be tested with individual-level data and analysis. Below I discuss the research hypotheses designed to investigate causal factors leading to variation in flight decisions at the individual level.

First, researchers agree that violence, or more generally, war of any type, is a major factor in explaining forced migration. But in the context of war, people's exposure to violence in a country may vary dramatically. In order to better understand the impact of conflict or violence on displacement, the actual and perceived exposure of individuals to violence becomes important. This leads to my first hypotheses that forced migration is positively associated with individuals' experiences with actual violence and their perceptions of the degree of threat that they are under. More uncertain are the research findings on the impact of economic opportunities on forced migration. I argue that a threat to one's economic security may be as compelling as direct physical threats to life insofar as survival in economically precarious societies can be compromised by economic breakdowns. In fact, people may be willing to tolerate some measure of physical threat in contexts where favorable economic opportunities are present. Assuming a constant level of physical threat, people are more likely to flee when economic opportunities also start depleting. This leads to my second set of hypotheses that the incidence of displacement is negatively associated with better individuallevel and village-level economic conditions, and conversely, positively associated with destruction of such conditions.

At the individual level, I can hypothesize about possible coping strategies that individuals may pursue that allow them to stay in their homes. Instead of fleeing, individuals can choose to cope with the threat caused by civil war by seeking a strategy of protection through social networks. This is made possible by the presence of community-level organizations that can provide a sense of security to a village community, decreasing the perceived cost of staying. Any strong social or community organization creates a web that links villagers together and works as an effective channel of communication at the expense of rebel infiltration. Such webs can facilitate the transmission of information about an impending threat, leading to collective action and possibly negotiation with warring parties even in extreme conflict situations. People who are members of a community organization or are aware of the presence of such organizations in their village may use them for drawing the attention of transnational organizations to atrocities. These community-level organizations, which I refer to as social networks, are embedded within the structure of a society. Unlike Edwards's (2009)

"displacement networks" which form among people in flight, these preexisting social institutions are an integral part of village life that binds communities together. In the context of a civil conflict, they may play an important role in reducing the perceived costs of staying home, raising the *reservation point* for some individuals. Thus, the incidence of displacement is negatively associated with the presence of social networks.

Empirical research is inconsistent in its findings on the role that geography and access to road facilities play in displacement. Because of the varied terrain and development, Nepal provides an excellent opportunity for a more nuanced test of the importance of physical terrain and infrastructure on an individual's decision to flee or not. Consistent with the literature, I hypothesize that access to roads and less mountainous terrain will be positively associated with the decision of individuals to leave.

Moving to an individual-level analysis enables us to develop and test hypotheses that cross-national studies cannot test. An armed conflict involves fighting between groups that often have opposing political opinions or agendas, and therefore politics arguably is an important element of present-day civil wars. I hypothesize that the political affiliation of an individual will have an impact on displacement, arguing that displacement will be negatively associated with membership in the rebel party, and conversely, positively associated with membership in the targeted political party. Finally, my study is able to hypothesize about the impact of demographic characteristics, such as age, education, gender, and number of children, on displacement, something aggregate studies cannot do.

#### **Research Design, Data, and Measures**

The question of why some people, even when faced with extreme violence, cope and stay behind while others flee can only be answered through an individual-level analysis. The rational-choice model of forced migration—a model originally developed for and applied to cross-national aggregate data—merits further theoretical refinement, and an individual-level analysis provides one such opportunity to refine the macro-micro linkage. A single-country study offers the opportunity to increase the number of observations within a single case (King, Keohane, and Verba 1994), and the individual-level data collected across Nepal permit us to use variables that are more precisely measured in order to draw a more valid causal inference (Snyder 2001). An intensive examination of a single case also offers an excellent opportunity to test the robustness of results derived initially from a large-*n* analysis (Lieberman 2005). A multistage cluster random-sampling technique with face-to-face interviews was employed. In this design, the hard-to-reach population of displaced persons constituted the primary sampling frame. Nondisplaced persons were then randomly selected from the same villages as the displaced persons (see Appendices A and B in the online Supporting Information for a detailed explanation of the research design, measures, descriptive statistics, and additional analyses not included for brevity). Because two sampling frames are involved, matching techniques are utilized to make inferences across the two frames.<sup>1</sup>

The dependent variable is a dichotomous measure of whether or not individuals were displaced (*DISPLACED*) during the conflict in Nepal, with displacement coded as 1. Two measures, created from the information gathered, are employed to assess the impact of violence on individuals' decisions. Actual violence (*ACTUAL VIOLENCE*) is a measure of actual physical assault experienced by individuals. This is a dichotomous variable coded 1 if the respondent experienced any of the following acts of human rights abuses: physical assault, abduction, physical and mental torture, sexual violence, punishment for not quitting their position with the national army, and forced recruitment into the rebel or national army, 0 otherwise.

The threat of violence (THREAT OF VIOLENCE) is expressed in terms of a composite index measuring the gravity of threat as perceived by each individual on a scale from 1 (low) to 6 (high). Threat of violence is different from actual violence in that the former represents the perceived threat created by conflict, whereas the latter expresses whether or not an individual experienced an actual act of human rights abuse. The mean level of actual violence and threat of violence experienced by respondents during the conflict is .87 and 2.20, respectively, and the two measures are modestly correlated at .24. The extent to which conflict causes displacement may depend on the significance of either perception or realization of violence, or both. With individual-level data on violence, I am able to test not only the impact of violence on flight decisions, but also people's perception of the threat they individually faced and how that affected their decisions.

To capture the impact of economic conditions, I use two sets of variables. The first set measures economic opportunities and individual economic conditions, and the second set measures destruction of economic opportunity and personal economic loss. The variable *INDUSTRY*  *PRESENT* is a dichotomous measure of whether or not at least one industry employing 10 or more people is present in the respondent's village and, as a retaining factor, is expected to have a negative coefficient. This cutoff was based on an earlier definition used by the Nepali government to define cottage and small-scale industries in a village. The goal was to capture the availability of economic opportunities, which would keep people in the village. The variable *INCOME* is a measure of annual household income expressed in terms of Nepali rupees. The variable *LAND* (logged) measures the amount of land owned by the respondent, expressed in terms of square meters, and is logged to control for the highly skewed pattern of land ownership in Nepal. Land is a critical asset for an in-

individuals' displacement. The role that economic conditions play in displacement is tested much more precisely at the village and individual level. At the village level, the dummy variable INDUSTRY DESTROYED measures destruction of economic opportunity and is expected to be positively associated with displacement. Personal economic loss is measured by loss of one's property. CROP/ANIMAL LOSS is a measure of whether an individual's crops, animals, or both were forcefully seized by either the Maoists or the national army during the conflict. Twenty-seven percent of respondents reported that their animals were forcefully taken, 42% were forced to give crops, and 26% lost both. No loss is coded 0. A positive loss of crops or animals is coded 1, and a loss of both is coded 2. LAND LOSS is a dummy variable measuring whether an individual's land was seized during the conflict (1) or not (0). Many villagers also lost their homes during the conflict, which is captured with a dummy variable, HOME DESTROYED. Their homes were either intentionally damaged or destroyed by the rebels or in the cross-fire between the rebels and the state security forces. Individuals whose crops, animals, or land was seized or whose homes were damaged or destroyed are more likely to flee.

dividual family in villages across Nepal, and the size of

holdings is likely to play a significant role in influencing

To assess the impact of social networks on displacement, I use information about a respondent's membership in or awareness of any of three prominent community-level organizations operating in the village. The variable *SOCIAL NETWORKS* is coded 1 if the respondent was a member of or expressed awareness of the presence of any of the following three organizations: community forest-users groups, mothers group, and small farmers' development program, and 0 otherwise. This proxy measure for the degree of microlevel social networking is expected to reduce the likelihood of displacement.

<sup>&</sup>lt;sup>1</sup>I thank an anonymous reviewer for pointing out this important issue.

In the survey, both displaced and nondisplaced people were asked about the presence or absence of a motorable road in their villages. The information provided by the individuals is used to test how a lack of physical infrastructure might have impacted their decision to flee. The variable *MOTORABLE ROAD* is a dichotomous measure of whether (1) or not (0) the respondent's village is linked by a motorable road and is expected to have a positive relationship with displacement.

During the survey, respondents were asked to identify their political party affiliation. The variable CPN(M) is a dichotomous measure of whether or not the respondent identified her- or himself as a member of the Communist Party of Nepal (Maoist). Many respondents to the survey declared that they "joined the Maoist party" to stay back. As such, I expect the variable CPN(M) to be negatively signed. On the other hand, members of the targeted parties (Nepali Congress [NC], Rastriya Prajatantra Party [RPP], and United Marxist Leninist [UML]) are expected to have fled in order to escape being systematically attacked by the rebels.

People with more children could be less likely to leave because it may be more difficult to travel with children because of a fear of future uncertainties for their children's education and well-being. People with more CHILDREN are also less likely to move because they are more strongly tied to their society due to their extended family size; hence a negative sign is expected. EDUCATION is a measure of the level of education attained and is expected to be positively signed. Subjects were asked to identify their level of education from the following seven categories: (0) Illiterate, (1) Primary level, (2) Less than high school, (3) High school graduate, (4) Intermediate, (5) Bachelor degree, and (6) Above a bachelor degree. MALE is a dummy variable—male (1), female (0)—and is expected to be positively signed. The variable AGE measures actual age of a respondent. The variable AGE SQUARED is included in the model to capture a possible curvilinear effect of age on individuals' decision to leave or stay.

#### **Results and Discussion**

Probit models are used to analyze the impact of the various factors discussed above on the binary decisions of individuals to flee or not. Table 1 reports the coefficients and the marginal effects for a one-unit change from the mean of each of the independent variables, holding all other variables constant at their mean or mode to assess the relative strengths of the independent variables in explaining displacement. Two models are presented in the table: Model 1 excludes demographic variables, and Model 2 includes them. In these multivariate tests, a matched subsample of the data is used to control for the problem of inference across the two sample frames. More specifically, the match group was created using nearest-neighbor matching with a 0.01 caliper including replacement using the psmatch2 command in Stata 11 (Guo and Fraser 2010). The independent variables matched on were demographic variables, including children, education, male, and age. The match was shown to be properly balanced.<sup>2</sup>

The empirical results confirm the main hypothesisthat physical threat to life is an important cause of displacement. The estimates for the coefficients of actual physical assault (ACTUAL VIOLENCE) and threat created by a violent environment in the villages (THREAT OF VIOLENCE) are both positive and significant in explaining displacement. As can be seen from Table 1, a one-unit increase in the perceived level of THREAT OF VIOLENCE results in an 8% increase in the likelihood that an individual will flee, keeping other variables at their mean, or mode for dichotomous variables. And, individuals who experienced an actual act of violence are 32% more likely to flee than those who experienced no violence. Not surprisingly, the empirical results in Table 1 confirm earlier studies that found a strong association between forced migration and conflict-related violence.

The measures of economic opportunity provide strong evidence in support of the argument that economic factors are important in predicting displacement. The estimates in Table 1 show that displacement is significantly less likely in the presence of employment opportunities created by the presence of industry. As expected, the coefficient for the variable INDUSTRY is negative in both models and significant at the 5% level, with a marginal impact of 19%. This suggests that people are likely to accept greater personal risks if they see a possibility of economic security through employment opportunities. Employment opportunities may also provide a source of income, which might be used by individuals to pay a forced donation and stay. The results for the measure of wealth suggest this possibility. The negatively signed and statistically significant coefficients for income in Models 1 and 2 of Table 1 suggest that for every category increase in annual income, the likelihood of displacement decreases by about 1 to 2%. These results support the argument that individuals with higher incomes are likely to stay,

<sup>2</sup>Table B.3 and Figure B.1 in the online Supporting Information show the matching diagnostics from the "pstest" and "psgraph" commands; the results support that the match is balanced, reducing the error in making inferences across the two sample frames.

Variables	Model 1	Marginal Effects	Model 2	Marginal Effects
ACTUAL VIOLENCE	1.14(.16)**	.32**	1.15(.16)**	.32**
THREAT OF VIOLENCE	.44(.06)**	.08**	.44(.07)**	.08**
INDUSTRY PRESENT	75(.23)**	19**	76(.24)**	19**
INCOME	06(.03)*	$01^{*}$	$09(.04)^{**}$	$02^{**}$
LAND (Logged)	.04(.02)**	.01**	.03(.02)**	.01**
CROP/ANIMAL LOSS	.33(.08)**	.06**	.35(.08)**	.06**
LAND LOSS	.94(.19)**	$.14^{**}$	.95(.19)**	.13**
HOME DESTROYED	.49(.30)*	.07*	.48(.30)	.07**
INDUSTRY DESTROYED	.91(.30)**	.10**	.97(.32)**	.10**
SOCIAL NETWORKS	08(.13)	01	10(.13)	02
MOTORABLE ROAD	.22(.12)**	$.04^{**}$	.20(.11)*	.03*
CPN (M)	59(.17)**	$14^{**}$	$57(.18)^{**}$	13**
CHILDREN	_	_	05(.03)	01
EDUCATION	_	_	.06(.04)	.01
MALE	_	_	.08(.09)	.01
AGE	_	_	0.004(.02)	.0007
AGE SQUARED	_	_	-0.00001(.0002)	000002
CONSTANT	$-1.52(.23)^{**}$	_	$-1.58(.49)^{**}$	_
Ν	1424	_	1424	_
Wald $\chi^2$	221.97**	_	230.75	-
% positive(Treated)	78.37	_	78.37	_
% correctly predicted	85.46	_	85.46	_

TABLE 1 Probit Analysis of Internal Displacement

*Notes:* N is less than 1,804 due to random missing data. Figures in parentheses are robust standard errors clustering at the ward level. \*\* = significant at the .05 level or better; \* = significant at the .10 level.

possibly by supporting the rebels monetarily. The coefficients for the variable *LAND* (logged) are positive and statistically significant in predicting displacement in both models. The results for land owned may be interpreted to mean that individuals who owned a greater amount of land were aware of the fact they could be targeted and fled in order to avoid being attacked or were forced to surrender their property and flee. Perhaps fear of being targeted outweighed consideration of remaining in the village to prevent usurpation of their land.

In addition, destruction of existing economic opportunities and loss of personal property are likely to force people from their villages. The positively signed and statistically significant coefficients for the variables *INDUSTRY DESTROYED*, *CROP/ANIMAL LOSS, LAND LOSS*, and *HOME DESTROYED* confirm these hypotheses. Destruction of an industry in a village increases the likelihood of displacement by 10%, while land seizure increases the probability of displacement by 13 to 14%. Likewise, the destruction or damage of a respondent's home increases the probability of displacement by 7%. The results for the variable *LAND LOSS* demonstrate the fact that in a country like Nepal where over 70% of the population lives on subsistence farming, land plays a critical role in retaining people in their villages. The marginal effects for the variable *CROP/ANIMAL LOSS* indicate that the probability of an individual being displaced increases by 6%. Controlling for violence, we can see that poor economic conditions and economic loss are also significant factors in forcing people from their villages.

There is a negative association between the presence of community organizations and seizure of private property and destruction in the villages, implying that confiscation and destruction are more likely to occur in the absence of social networks. The correlation with seizure and destruction of personal property makes the presence of social networks insignificant in the multivariate models. If the models in Table 1 are tested excluding these measures of personal property loss, the coefficients for *SOCIAL NETWORKS* are statistically significant at the 10% level with a marginal impact of 4% in both models, suggesting that the presence of social networks may directly or indirectly impact individuals' decisions to stay in their villages.

The coefficient for the measure of physical infrastructure (MOTORABLE ROAD) is positively associated with displacement and statistically significant in both models. Presence of a motorable road in the village provides opportunity for individuals to flee. The availability of a motorable road increases the probability of displacement by 3 to 4%, holding all other variables constant at their mean or mode. The results support the hypothesis that physical characteristics of the countryside condition people's choice to flee. By using a measure of the presence or absence of roads at the village level, a much more precise measure of physical infrastructure, the ambiguity reported in earlier studies on the association between ease of flight and forced migration is ameliorated. Opportunity presented by physical infrastructure does appear to matter.<sup>3</sup>

Testing for party affiliation, Maoists supporters were 13 to 14% less likely to flee their homes as compared to individuals affiliated with the other political parties, indicating that more attention needs to be given to understanding the impact of politics on individual displacement.

The above results are substantively similar to those found with the full, unmatched sample (see online Supporting Information for the unmatched results). This provides further evidence that the causal relationships of interest between displacement and threat of violence, economic conditions, physical infrastructure, and politics observed in the analyses are robust. Although the results for the demographic variables in the model, including children, education, male, and age differ across the matched and unmatched samples, these variables are primarily included as controls.

#### Conclusion

What explains individuals' decisions to flee or not in the face of civil war? The empirical analysis confirms the importance of violence and threat, but in addition, economic wealth and opportunity, as well as the costs associated with the loss of such opportunities, were found to be very important in predicting forced migration, as is an opportunity for flight. Social networks may play an important direct role in reducing risk, or an indirect role by reducing economic loss, and thereby reducing the likelihood of flight from villages where they are present. The results suggest that violent conflict is not the only factor affecting displacement decisions. Even when life is under extreme threat, multiple factors affect flight. These results, which provide a more nuanced test of the choice-centered approach to the study of forced migration, add significant value to our understanding of the causes of displacement.

With more precise data measured at the individual level, we can conclude with a greater degree of confidence that in addition to actual human rights violations, perceived threat is an important factor explaining displacement. More importantly, the results also confirm that a broader range of factors, some identified in large-n crossnational studies by scholars such as Davenport, Moore, and Poe (2003), Melander and Öberg (2006), Moore and Shellman (2004, 2006, 2007), Schmeidl (1997), and others, are needed to explain forced migration. For example, further research is needed to explore the effect of political factors in facilitating people's ability to cope with the violence of civil war and avoid becoming displaced. Overall, the empirical results provide strong support for the argument that rational choice is possible even under extraordinary conditions like civil war.

The present findings raise an additional important question for an extension of this research. When individuals choose to stay behind and not flee from conflict, what actions do they take to cope with their situation? What are the coping mechanisms at the disposal of individuals who chose to stay behind during civilian conflicts? This question has not yet been explored in the forced migration literature and is a subject for further research.

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<sup>&</sup>lt;sup>3</sup>Terrain is correlated with motorable road, but an analysis of its impact is provided in the online Supporting Information.

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### **Supporting Information**

Additional Supporting Information may be found in the online version of this article:

**Appendix A:** Sampling Frame, Data, and Measures **Appendix B:** Measures, Descriptive Statistics, Additional Analysis, and Illustrations

Table B.1: Descriptive Statistics

**Table B.2:** Difference of Means Test for Independent Variables Before and After Matching Displaced and Nondisplaced Samples (Paired Differences)

**Table B.3:** Matching Diagnostic Output from the "pstest"Command in stata 11

**Figure B.1:** Matching Diagnostic Output from the "psgraph" Command in stata 11

**Table B.4:** Probit Analysis of Internal Displacement with

 Unmatched Data

Figure B.2: Presence of Road and Probability of Being Displaced

**Figure B.3:** Elevation and Probability of Being Displaced **Figure B.4:** Social Network and Probability of Being Displaced

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