SUPPLEMENTAL APPENDIX

This supplemental online appendix has two components: Section A contains further discussion of the dataset, and Section B contains the complete regression results from Table 2.

Appendix A: Data description

This section contains information on the source of data used as additional covariates (control variables) in the regressions in Table 2, and the measures of Sierra Leone civil war violence.

The primary forest and secondary forest in 1990 measures, as well as the Normalized Difference Vegetation Index (NDVI) measures, are from the same Landsat satellite data that is described in detail in the main text. The chiefdom population measure is from the 1985 Sierra Leone National Census. The number of registered diamond mines, number of registered non-diamond mines, road density, river density, and distance to Freetown (the capital) are from a Geographic Information Systems (GIS) dataset published by the Government of Sierra Leone in 2003, with technical assistance from the United Nations Development Programme (UNDP). The data was produced and distributed by Sierra Leone Information Systems and the Development Assistance Coordination Office (SLIS/DACO) in Freetown. GIS coordinates of all government registered industrial mining sites were combined with firm descriptions from site licenses to determine to location of all registered diamond mining sites. Non-diamond industrial mining plots, including rutile, bauxite, silver, gold, and 'assorted minerals', are also observed. The same SLIS/DACO GIS data was also used to construct measures of road density, river density, distance of the chiefdom to Freetown, and the land area of each chiefdom. The land area measure, together with the chiefdom population measure, allow us to create a population density measure.

The civil war violence data comes from the No Peace Without Justice (NPWJ) Report, 2004. A measure of conflict intensity that focuses on troops and soldiers is provided by the number of attacks and battles in each chiefdom. This measure was coded from the NPWJ conflict mapping report. NPWJ is a non-profit organization that works to promote an effective international criminal justice system and to support accountability mechanisms for war crimes. The conflict mapping report seeks to record all violations of humanitarian law that occurred over the entire conflict

period. The 'factual analysis' section of the report is organized chronologically by district, and it reports the chiefdom where each incident occurred, allowing for the construction of chiefdom level war violence measures. The report is available online at: http://www.npwj.org. One measure used in our analysis is the number of attacks and battles that occurred within each chiefdom. An *attack* is defined to be an incident in which an armed group came into a village briefly, burned houses, raped or killed residents. It is common for attacks to be part of a larger military campaign and thus for human rights violations to be committed on a large scale (e.g. "during these attacks RUF forces burnt down fifty houses, killed nine people, abducted an unknown number of people and amputated a man's hand with an axe" p. 189). A *battle* is defined to be a confrontation between two armed groups (e.g. "On 25 February, the RUF made a successful counter-attack at the rutile mining site, dislodging the SLA forces based there." p. 430). Battles need not directly involve violence against civilians, although they sometimes do. There were 1,995 violent incidents recoded in the NPWJ report, and 1,363 of these incidents were classified as either an attack or a battle. The report also contains information which chiefdoms contained RUF bases, another key measure used in the analysis.

Appendix B: Complete regression results from Table 2

	Model 1 (2)	Model 2 (4)
Indicator of RUF base in chiefdom	0.0598**	0.0636**
	(0.0272)	(0.0253)
Indicator for chiefdom battles and attacks>0	0.0151	
	(0.0391)	
Log(Chiefdom battles and attacks)		-0.000208
		(0.0113)
Log(District battles and attacks)		0.0522
		(0.0341)
Primary forest in 1990 (percentage of total area)	0.0363	0.0376
	(0.0831)	(0.0867)
Secondary forest in 1990 (percentage of total area)	-0.448***	-0.438***
	(0.0827)	(0.0702)
Change in yearly-maximum NDVI from 1982 to 1990	-0.361*	-0.229
	(0.201)	(0.188)
Total Registered Diamond Mines (GIS)	0.00291	0.00226
	(0.00196)	(0.00187)
Total Registered Non-Diamond Mines (GIS)	-0.00706	-0.00564
	(0.00421)	(0.00414)
Road Density (GIS)	0.166	0.122
	(0.185)	(0.229)
River Density (GIS)	-0.101	-0.0714
	(0.115)	(0.120)
Chiefdom population in 1985 (1985 Census)	-0.0000011	0.0000011
	(-0.00000087)	(0.00000074)
Population Density in 1985 (1985 census)	0.000132	0.000097
	(0.000244)	(0.000232)
Log Distance to Freetown (GIS)	-0.0332	-0.0229
	(0.0275)	(0.0279)
Constant	0.479	0.257
	(0.339)	(0.313)
R-squared	0.550	0.564
Number of chiefdom observations	146	137
Number of district observations	14	14

Table A1. Effect of battles and attacks on percentage point change in total forest
Complete results from Table 2, Panel A: Total Forest Cover (dependent variable). Asterisks denote statistical significance levels: *** P<0.01, ** P<0.05, * P<0.1. See Table 2 for complete notes.

	Model 1 (2)	Model 2 (4)
Indicator of RUF base in chiefdom	-0.000110	-0.000064
	(0.000141)	(0.000114)
Indicator for chiefdom battles and attacks>0	0.000033	
	(0.000088)	
Log(Chiefdom battles and attacks)		-0.00009
		(0.000065)
Log(District battles and attacks)		0.000047
		(0.000127)
Primary forest in 1990 (percentage of total area)	-0.000486	-0.000550*
	(0.000312)	(0.000303)
Secondary forest in 1990 (percentage of total area)	-0.000367	-0.000409
	(0.000285)	(0.000289)
Change in yearly-maximum NDVI from 1982 to 1990	-0.000237	-0.000203
	(0.000375)	(0.000327)
Total Registered Diamond Mines (GIS)	0.0000089	0.000012
	(0.0000096)	(0.000011)
Total Registered Non-Diamond Mines (GIS)	-0.0000022	-0.000004
	(0.0000088)	(0.000009)
Road Density (GIS)	-0.000155	0.000015
	(0.000561)	(0.000598)
River Density (GIS)	0.000327	0.000272
	(0.000755)	(0.000901)
Chiefdom population in 1985 (1985 Census)	-0.00000001	-0.00000001
	(0.00000001)	(0.00000001)
Population Density in 1985 (1985 census)	0.0000011*	0.00000091
	(0.00000051)	(0.00000056)
Log Distance to Freetown (GIS)	-0.0000714	-0.000059
	(0.000089)	(0.000078)
Constant	0.00113	0.000963
	(0.00117)	(0.00105)
R-squared	0.083	0.099
Number of chiefdom observations	146	137
Number of district observations	14	14

Table A2. Effect of battles and attacks on percentage point change in primary forest
Complete results from Table 2, Panel B: Primary Forest Cover (dependent variable). Asterisks denote statistical significance levels: *** P<0.01, ** P<0.05, * P<0.1. See Table 2 for complete notes.

	Model 1 (2)	Model 2 (4)
Indicator of RUF base in chiefdom	0.0599**	0.0637**
	(0.0272)	(0.0253)
Indicator for chiefdom battles and attacks>0	0.0150	
	(0.0391)	
Log(Chiefdom battles and attacks)		-0.000118
		(0.0113)
Log(District battles and attacks)		0.0521
		(0.0340)
Primary forest in 1990 (percentage of total area)	0.0367	0.0381
	(0.0831)	(0.0866)
Secondary forest in 1990 (percentage of total area)	-0.448***	-0.438***
	(0.0826)	(0.0701)
Change in yearly-maximum NDVI from 1982 to 1990	-0.360*	-0.229
	(0.201)	(0.188)
Total Registered Diamond Mines (GIS)	0.00290	0.00225
	(0.00196)	(0.00187)
Total Registered Non-Diamond Mines (GIS)	-0.00706	-0.00563
	(0.00422)	(0.00414)
Road Density (GIS)	0.166	0.122
	(0.185)	(0.229)
River Density (GIS)	-0.101	-0.0717
	(0.115)	(0.120)
Chiefdom population in 1985 (1985 Census)	-0.0000011	-0.0000011
	(0.00000087)	(0.00000074)
Population Density in 1985 (1985 census)	0.000131	0.0001
	(0.000244)	(0.000231)
Log Distance to Freetown (GIS)	-0.0331	-0.0228
	(0.0275)	(0.0279)
Constant	0.478	0.257
	(0.339)	(0.313)
R-squared	0.550	0.564
Number of chiefdom observations	146	137
Number of district observations	14	14

Table A3. Effect of battles and attacks on percentage point change in secondary forest
Complete results from Table 2, Panel C: Secondary Forest Cover (dependent variable). Asterisks denote statistical significance levels: *** P<0.01, ** P<0.05, * P<0.1. See Table 2 for complete notes.