International Area Studies Review
http://ias.sagepub.com/

Hearts and mines: A district-level analysis of the Maoist conflict in India

Kristian Hoelscher, Jason Miklian and Krishna Chaitanya Vadlamannati

International Area Studies Review 2012 15: 141
DOI: 10.1177/2233865912447022

The online version of this article can be found at:
http://ias.sagepub.com/content/15/2/141

Published by:
Center for International Area Studies, Hankuk University of Foreign Studies

Peace Research Institute Oslo

and
http://www.sagepublications.com

Article

International Area Studies Review
15(2) 141–160

DOI: 10.1177/2233865912447022
ias.sagepub.com

Hearts and mines: A district-level analysis of the Maoist conflict in India

Kristian Hoelscher[1]
University of Oslo and Peace Research Institute Oslo, Norway

Jason Miklian
Peace Research Institute Oslo and Noragric, UMB, Ås, Norway

Krishna Chaitanya Vadlamannati
Alfred-Weber-Institute for Economics, University of Heidelberg, Germany

Abstract

India's rapid economic growth over the last decade has been coupled with a Maoist insurgency that competes with the state for rural allegiance. In response to the threat, the Government of India has securitized development, using public works programmes in an attempt to sway locals away from Maoist allegiance. However, these areas are also home to massive iron and coal mines that drive India's growth. This study aims to address the lack of local-level analysis and the lack of a robust dataset by merging qualitative fieldwork with disparate district-level conflict data sources to explore different potential explanatory variables for the Maoist insurgency, including the relationship between development works, violence, and natural resource extraction. We find that while effective implementation of development programmes is loosely related to the immediate suppression of violent activities in Maoist-affected districts, and under certain conditions mining activity increases the likelihood for conflict, it is the presence of scheduled caste and tribal communities that is the best predictor of violence.

Keywords

Socio-economic development, Maoist conflict, Naxalism, NREGA, internal security, insurgency, India, resource war, civil conflict, greed and grievance

Corresponding author:
Kristian Hoelscher, Department of Political Science, University of Oslo, PO Box 1097, Blindern N-0317, Norway.
Email: kristian.hoelscher@stv.uio.no

> NREGA [local development program] is the only way forward to take on the Maoists. This is nothing about winning hearts and minds. Its only about giving people work before the rebels come in and convince them that they are a better option than the state (NREGA officer in West Midnapore district of West Bengal; BBC, 2010)

Introduction

India is often hailed as one of globalization's success stories. After India's 1991 implementation of market-economic reforms, growth has been both sustained and robust in terms of national economic indicators (Bosworth et al., 2006). It is one of the fastest growing emerging economies in the world, and over US$40 billion is pumped in annually by foreign firms looking to capitalize (Poddar and Yi, 2007). Yet most citizens in rural areas of the country have missed out on the spoils of this growth, and rapidly increasing inequalities are fuelling resentment as high levels of poverty and the absence of basic infrastructure (including drinking water, housing, sanitation, food and employment) are commonplace (Banerjee, 2010). According to Oxford University's *Multidimensional Poverty Index* (Oxford Poverty and Human Development Initiative, 2010), a staggering 55% of the Indian population still live below the poverty line of US$1.25 a day, despite a bevy of rural development programmes intended to rectify the situation. These poor constitute 400 million people in just eight Indian states: Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal.

Many of these states also face an additional challenge: they are fighting an armed insurgency against the Communist Party of India-Maoist (or Maoists) that has taken the lives of 10,000 citizens and displaced another 150,000 since 2004 (MHA, 2010). The Government of India argues that a lack of development drives the Maoist movement, and that the Maoists gain support primarily from exploiting impoverished rural populations suffering from underdevelopment, social injustice, discrimination and other social services gaps (Government of India, 2010; Ministry of Rural Development, 2010; Planning Commission of India, 2008). The Government of India's (2011) offered solution was to securitize development, viewing development works in conflict zones as national security programmes in a second front combined with military actions to fight the Maoists.

However, Indian policymakers typically rely on anecdotes to support this claim, not empirics. Further, most quantitative studies of the Maoist conflict disaggregate only down to the state level when correlating India's vast amount of available socio-economic data with Maoist conflict markers (Borooah, 2008; Piazza, 2010; Remøe, 2010; Vadlamannati, 2010). Disaggregation is essential to understanding conflict (and resolution) drivers, and rationales for disaggregation are manifold. Many of India's 28 states are as complex as they are large, and within the country's 592 districts lie tremendous geo-spatial inequalities. This is especially the case when dealing with states like Andhra Pradesh that host both wealthy mega-cities and indigenous populations suffering endemic poverty.

This study employs data from three disparate district-level conflict data sources to attempt to locate district-level drivers explaining the location and intensity of the Maoist insurgency. Our previous qualitative research provided strong anecdotal evidence that the Maoist movement and mining industry activities are related (Miklian, 2010, 2011; Miklian and Carney, 2010). Here we empirically test the association between the mining sector and the Maoist conflict in a multivariate model. We analyse cross-sectional data from six Indian states – Chhattisgarh, Andhra Pradesh, Orissa, Jharkhand, Bihar and West Bengal. These states cover the areas where the Maoist insurgency was strongest during the 2004–2010 period, representing 151 of India's 592 districts and accounting for 90% of total violent Maoist incidents.

Using probit and negative binomial estimation techniques we find that conflict is consistently related to larger scheduled caste and tribe (SC/ST) share of the population, while mining activity under some conditions increases the likelihood and intensity of conflict. We also find that increased forest cover and the prevalence of conflict in neighbouring districts have a positive relation to conflict. Our conclusions suggest that conflict is more likely to occur in districts with aggrieved populations that carry markers of horizontal inequality, that other underdevelopment indicators alone are insufficient explanatory variables, and that mining activity is not necessarily a conflict driver – but it does exacerbate conflict in poorer districts where existing grievances can be exploited.

Case and theoretical background

The Maoist conflict dates to 1967, when an uprising over land reform in the West Bengal village of Naxalbari spurred large-scale revolts against unjust agrarian practices. Followers called themselves Naxals, professing that political violence was necessary to loosen the ruling elite's hold over rural India. The movement ebbed and flowed throughout the 1970s, reaching a nadir by 1985 after the government captured or killed most senior leaders. After a period of fracture and disorganization, heretofore disparate Naxal groups began to consolidate in the early 2000s, and together formed the Communist Party of India-Maoist in 2004. Since then, violence has dramatically increased, spreading to most states of east-central India.

Concurrently, the ruling United Progressive Alliance (UPA) government initiated several social welfare projects in an effort to stem the Maoists' rural allure. The most significant was the National Rural Employment Guarantee Act (NREGA, now MGNREGA), the government's flagship employment development programme. NREGA was launched in 2006 to enhance livelihood security in rural areas beset by chronic joblessness and falling agricultural productivity by guaranteeing at least 100 days per year of wage-employment to every rural household. While the short-term objective was to bolster employment, it was also trumpeted by UPA politicians as a key policy tool to campaign for the 'hearts and minds' of local populations. UPA consensus holds that citizens join the Maoists in retribution for being chronically impoverished, and development programmes that address the land, employment and inequality-based grievances highlighted by the Maoists will lead to conflict resolution (Kolås and Miklian, 2009; Verma, 2011). As the opening quote illustrates, winning the ideological fight for India's rural soul is deemed essential to durable military victory, and Indian policymakers believe that more economic development will guarantee a reduction in violent conflict.

However, this grievance-based narrative of under-development as the sole cause for rebel recruitment overlooks a number of integral conflict dynamics. India's economic boom has heralded an explosion of both foreign direct investment and demand for the estimated US$1 trillion of natural resources that lie within the country. India's mining sector followed suit, ramping up operations across the country for both profit and national security reasons. Much of this mining occurs in many of the same areas where the Maoist conflict has been the most severe, and within the states that are considered most corrupt, exacerbating inequality and providing vivid examples of graft. Politicians, police and mining companies all profit from projects that either skirt or ignore laws meant to protect fragile environmental or human landscapes (Miklian, 2012). Many mines are also operationalized with so little consideration for local concerns that citizens feel moved to either commit violence or support the Maoists for their anti-mining position alone (Navlahkan, 2010; Shah, 2011). The Maoists have a long history of exploiting these dynamics to further their political and financial aims through both historical (Suykens, 2010) and contemporary (*People's March*,

2010) propaganda, which is couched in Communist 'permanent revolution' rhetoric. Both cases suggest that projects have pushed local populations to support Maoist anti-capitalist and anti-foreign stances in an attempt to save their lands.

Complicating matters, commercial concerns have become the third rail of conflict. Dozens of major and minor mining companies saw mining deregulation as an opportunity for growth, and the less scrupulous united with local politicians to use the 'fog of war' as an excuse to expropriate indigenous land. In the most egregious example, a civilian militia was created in Chhattisgarh to fight the Maoists and secure the region for mining companies (People's Union for Civil Liberties, 2006). After the militia launched, over 100,000 villagers living atop resource beds were forced to flee; many were still not allowed to return years later (Human Rights Watch, 2008). Government mining firms paid both the militia and the Maoists for 'protection' services in order to ensure continued operations (Miklian, 2009), or to clear land through proxy wars (Bahree, 2010). The Maoists contributed, extorting profits from mine owners to fund their war and play up their Robin Hood credentials (Verma, 2011).

The Maoist case is not unique. Resource conflicts between governments and indigenous communities exist worldwide, and this narrative generally fits within existing literature on conflict and resource extraction. Pull factors are also related to increased violence, as mining-heavy districts are attractive targets for the Maoists. These districts have other common characteristics that previous studies show insurgent groups to find desirable: difficult to access terrain (Fearon and Latin, 2003), a high degree of corruption in natural resource projects (le Billon, 2004; Ross, 2004a, b), large amounts of explosives on mine sites that can be stolen and then used against official forces (Miklian and Carney, 2010) and a large population of aggrieved citizens (Regan and Norton, 2005). Lujala (2010) finds that resource location is also positively correlated with conflict duration, forming a basis for our study on this relationship. Governmental pressure for increased extraction by corporations 'establishes a playing field – even while advocating for indigenous rights – that invariably furthers the interests of extractive industries' (Sawyer and Gomez, 2008: 2).

However, while literature on 'resource curses' is extensive, it remains underpinned by what le Billon (2001: 565) calls 'the socially constructed nature of resources'. Further, most 'resource conflict' research is at the country level, using as cases small mono-commodity countries at war to study the duration, intensity and likelihood of civil conflict. As India is a democracy with a diverse economic base, le Billon's (2008) argument that resource conflict and development relationships can be twisted into ambiguous exploitative criminalities is especially important as the Indian government increasingly frames extraction as a core component of inclusive growth and development policies for 'backwards' areas (Government of India, 2011: 134).

Building upon Arellano-Yanguas's (2011) work in Peru, we sought to better understand the relationship of mining and development to the Maoist conflict, testing several potential drivers for conflict as well as exploring how and where mining activity may exacerbate conflict.[2] We note that unending violence may be the desired state for conflict actors – not a breakdown of society per se but merely a different framework that empowers alternative actors financially and politically (Duffield, 1998; Keen, 2008). There is also an important distinction between insurgent recruitment and insurgent latent support (Kalyvas, 2006; Weinstein, 2008). In many impoverished villages, local support is predicated on the belief that the Maoists can provide services that the government either fails to offer (such as schools) or implements so poorly that the Maoist alternative is preferred (such as the Maoist judicial system, often pejoratively called 'kangaroo courts'; Navlakha, 2010). This finding supports Berman et al.'s (2011) general assessment on 'hearts and minds', stating that citizens may choose to support a violent challenger to the state if service provision is poor. Support is also a function of fear, as otherwise disinterested groups may offer material or

logistical aid to violent groups that they feel represent a new status quo (Green, 1994). However, recruitment remains an individual decision, which may not reflect grievance-based issues. Individuals join insurgencies for revenge, justice or personal profit, to escape family situations, for machismo, and for other reasons that may have nothing to do with the conflict (Humphreys and Weinstein, 2008). While latent conditions for rebel recruitment may exist throughout India, they are alone insufficient to explain the conflict's growth, intensity and spread.

Hypotheses

With this background, we developed several hypotheses testing how conflict relates to socio-economic factors, mining and development at the district level. Our first hypothesis tests the relationship between economic exclusion and violence. We assume an effect of level of development on conflict, incidence, frequency and severity in the following hypothesis:

H1: Lower levels of development will be related to greater Maoist violence.

We measure this in three ways. First, we can theoretically link poverty with a decreased opportunity cost of rebellion (Collier and Hoeffler, 2004). We consider therefore that *lower levels of income* will be related to greater Maoist violence and operate as a measure of opportunity cost. However, lower levels of development can also represent a lack of state capacity within a district (Fearon and Laitin, 2003), and a lack of service provision to rural communities has been cited as a grievance motivating rebellion (Borooah, 2008). Additionally, Maoist insurgents tend to exploit decreased state presence and local grievances in poorer areas, and support may be more easily gained and maintained where income or state reach is reduced.[3] As such, we consider that *lower levels of basic service provision* proxies the presence of the state, and we use this as a second measure of the relationship between level of development and Maoist violence.

One further factor related to level of development is the share of caste and tribal populations, who disproportionately represent the poorest cohorts of society. Further, the Maoists claim to represent the interests and grievances of disadvantaged populations, including scheduled castes and tribes (Shah and Pettigrew, 2009). Therefore, if the Maoist insurgency is predicated upon an ideological platform that appeals to and requires the support of poor or excluded SC/ST communities, we would expect that greater SC/ST populations increase localized support for Maoists. We therefore suggest that *greater SC/ST populations* will be related to greater Maoist violence.

Our second key hypothesis regards the relationship between mining and Maoist violence, assessing the links between the presence of natural resources and conflict. The civil conflict literature gives numerous examples of how rents from natural resources create and sustain civil conflicts, and how their effects on national economies prolong fighting and hinder post-conflict recoveries (e.g. Ross, 2004a, b; de Soysa and Binningsbø, 2009). In several Maoist-affected states, natural resources have been expropriated to finance rebel activity (Miklian and Carney, 2010). On the basis of previous fieldwork, we consider mining to incentivize conflict through the taking of rents by rebels, and to prolong rebellion, yet also acknowledge that mining operations often appropriate land, serving as a source of grievances for local populations. We test the effect of the value of district level mining, and hypothesize that:

H2: Greater values of mining activity in a district will be related to greater Maoist violence.

Third, we assess the effect of policies specifically targeted to address rural poverty, represented in this case by the NREGA scheme. We expect that, where a greater percentage of households are employed under NREGA, citizens have a greater opportunity cost of engaging in violence against the state. Per the UDA's rationale, addressing underdevelopment through rural employment and anti-poverty initiatives would lead to decreased recruitment and/or support for the Maoists and therefore lower rates of insurgent violence. We hypothesize that:

H3: Greater implementation of the NREGA programme will be related to lower levels of Maoist violence.

It is possible that economic or grievance-based factors do not work in isolation, and theoretical and empirical work on civil conflict has moved on considerably from a simple greed- or grievance-based narrative (or its newer 'opportunities vs incentives' incarnation; see Blattman and Miguel, 2010). As such, conflict may be strongest in situations where violence is economically incentivized *and* where grievances mobilize support for insurgency. Here both exclusionary underdevelopment and higher-value mining operations may be necessary conditions for violence. We therefore hypothesis that:

H4: Mining activity in the context of lower levels of development will be related to greater Maoist violence.

We draw upon our first hypothesis to assess possible ways in which motive and opportunity may coincide to increase conflict. We use two measures for level of development, and interact these with our variable measuring the value of mining operations. First, we test the possibility that mining activities are only likely to increase violence where they disenfranchise local tribal populations. We suggest then that *greater value of mining activity in the context of greater SC/ST* populations will be related to greater levels of Maoist violence. Second, we assess whether mining is conflict-inducing only where it occurs in the context of economically excluded local populations. We therefore suggest that *greater mining activity in the context of lower per capita income* will be related to greater Maoist violence.

Data and estimation strategy

Data

While several disparate organizations have collected and published data on the Maoist conflict, there is no one source that is to-date complete. A key contribution of this article, therefore, is the compilation of a unique dataset of Maoist-related violence from existing yet disparate sources. Such data sources are often housed within partisan think-tanks in India, making analyses based on these numbers *a priori* politically slanted, incomplete or misrepresentative (by under-reporting civilian killings, for example). For this reason, we designed our dataset to utilize all available legitimate sources, cross-referencing the data with fieldwork, and used only total reported deaths rather than deaths by combatants or non-combatants.[4] Previous academic attempts to catalogue the scale of the Maoist conflict have been commendable, but suffer from sizeable gaps in coverage of Maoist-related events (Iyer, 2009) or overly simplify classification of districts where conflict is either present or absent, masking differences in the scale of violence (Boorah, 2008). Other emerging research attempts to catalogue Maoist violence over time, but sacrifices validity of measurement in order to create panel datasets (Gomes, 2011).

To address event completeness, we compiled a unique dataset on the incidence and severity of conflict at the district level using information from three separate sources. We recorded all

Maoist-related events *involving at least one fatality* if reported by one or more of the South Asian Terrorism Portal (2011), the National Counter Terrorism Centre's Worldwide Incidents Tracking System (2010) and/or the Global Terrorism Database. These organizations collate data from newspaper and human rights group reports, and include descriptions of the event, actors, targets and fatalities, as well as the dates on which incidents occurred. We then cross-checked between sources to code all unique violent incidents.[5] We further checked the general plausibility of these reports by comparing them with anecdotal evidence of levels of violence gained from our previous qualitative fieldwork in Maoist regions, and information available from the Indian Ministry of Home Affairs. Individual events were geo-coded to the district in which the conflict occurred and the number of fatalities was recorded. Our dataset includes information on total deaths of both combatants and non-combatants, and state and non-state actors for the period January 2004 to November 2010, representing a total of 1827 events with 4816 fatalities.

While our dataset represents a significant step forward in coverage and quality, we do not claim to have compiled a complete collection of Maoist insurgency events. We relied on third-party reports of conflict events from newspaper and wire agencies, and while standards of journalism in India are improving, partisan views and simple omissions ensure that we have not captured all deaths or events. While news reports are incomplete, we assume that Maoist violence reportage is representative for trends between districts. However, potential biases include: certain geographic areas receiving poorer media coverage than others; events in more remote districts being less likely to be reported than similar events in districts of greater economic, political or strategic importance; and, in districts where conflict is particularly high, possible problems in accessing information and an underestimation of conflict owing to the danger of reporting in such areas.[6] In light of these caveats, our dataset represents the most complete disaggregated source of Maoist-related violence presently available.

Estimation strategy

We employed a cross-sectional design at the district level, and analysed factors related to the incidence, frequency and severity of armed insurgency in six states. As the data we employed were used cross-sectionally, the observation for each district represents the *total number of incidents (or deaths) occurring in each district over the course of the seven years between 2004 and 2010*. We used the count totals of Maoist-related violent events for this period to assess the aggregate levels of violence experienced in the districts of these states since the onset of the most recent phase of the insurgency. This study, therefore, does not claim to measure temporal aspects that may influence the conflict, but rather how structural factors have determined current levels of violence in the districts most affected by the movement.

We chose a cross-sectional design for this time period for reasons both theoretical and pragmatic. We selected only six states as they together represent both the historical and current loci of Maoist insurgency and include the vast majority of Maoist-related incidents – over 90% of conflict events and fatalities since the Communist Party of India-Maoist was formed in 2004. Second, these states also house all of the core districts of Maoist recruitment, activity, and support in the current stage of the rebellion, from 2004 onwards.[7] We thus considered that a type of 'exceptionalism' is present in these states, and therefore analysed the relationship between Maoist violence and socio-economic and structural factors for the districts in these six states alone.

This opens our design to criticisms of selection bias, primarily that we have non-randomly selected states that have experienced high levels of insurgent Maoist violence, thus limiting the veracity of causal inferences. This criticism of non-random selection of cases based on invariant

values of the dependent variable is reasonable, and we counter with three points. First, while the states we chose are hotspots of Maoist violence, our analysis is at the district rather than state level. We include all districts of the six selected states regardless of level of violence. Indeed, 30% of the 151 districts in our study experienced no conflict events between 2004 and 2010. Further, only 57% of districts experienced more than one event over the period of analysis, with significant variation in the number of events and fatalities at this level of aggregation. Second, as previously stated, there is an exceptionalism about these particular states. While Maoist violence occurs to some limited degree in other states, it is fundamentally less organized and more factional, while also being far less integrated with the movement in the eastern states. Third, and most relevant, we do not claim to extend the findings of this article beyond the six states in question. Addressing the temporal aspects of the study, we forgo a panel analysis as existing data is deemed to be of questionable quality or to lack variation. Given our concerns, we limit our study and inferences to what is permitted by currently accessible data.

Empirical measures

We outline our dependent and independent measures below, and display descriptive statistics for all variables in Table 1.

Dependent variables

It is plausible that there are different drivers of the frequency and magnitude of attacks. Grievance-related issues may be associated with the establishment of insurgency, but economic incentives can prolong conflicts and render them more violent. A greater number of attacks, or more severe violent attacks, might provoke particularly harsh reactions by the respective state and central governments concerned. They also clearly represent a greater threat to the security and livelihoods of citizens in these areas. We therefore measured the Maoist conflict in three ways. We looked at whether a conflict was *present* or not; how *frequently* violent events occurred; and how *severe* these events were.

Conflict incidence. We measured conflict incidence cross-sectionally by assessing whether or not a district experienced *one or more Maoist events that resulted in a fatality* for the period between 2004 and 2010. We estimated our cross-sectional regressions for conflict incidence employing the probit estimator controlling for district effects and standard errors clustered at district level (Beck and Katz, 1995). This approach assumes that the observations are non-independent within units (districts) but independent across. We estimated the following relationship:

$$\text{Conflict}_{ji} = \psi_1 N_{ji} + \psi_2 Z_{ji} + \omega_{ji} \quad (1)$$

where Conflict_{ji} represents the armed conflict incidence in a district j in state i, N_{ji} denotes key explanatory variable(s) specific to the Maoist conflict, Z_{ji} is a control variable related to the outbreak of civil conflict, and ω_{ji} is an error term for district j in state i.

Conflict intensity: frequency and severity. We estimated the intensity of conflict in two ways, generating two cross-sectional dependent variables. We measured *frequency* using *the sum of the total number of violent incidents* in the 2004–2010 period, and measured *severity* using the *sum of the total number of battle deaths* owing to Maoist violence during the same 2004–2010 period.

Table 1. Descriptive statistics

Variables	Mean	Standard deviation	Minimum	Maximum	Observed
Dependent					
Conflict incidence	0.708	0.456	0.00	1.00	151
Conflict lethal events (count)	12.099	33.600	0.00	320.00	151
Battle deaths (count)	31.894	118.053	0.00	1314.00	151
Independent					
District per capita GDP (log)	9.302	0.52	8.25	10.73	148
Basic public goods access	0.000	1.000	–2.13	2.35	140
SC/ST population share	31.210	16.875	6.22	81.88	142
Per capita iron and coal mining revenue (log)	0.290	0.790	0.00	3.77	142
Household share under NREGA	15.457	6.367	1.87	58.78	140
Control					
Total population (log)	14.418	0.697	12.52	16.08	142
Total literacy rate	56.356	12.888	30.17	80.86	142
Forest area share	11.614	14.395	0.00	98.84	142
Urbanization rate	16.947	15.678	3.24	100.00	142
British direct rule dummy	0.437	0.50	0.00	1.00	151
Conflict events in neighbouring districts	49.894	66.854	0.00	368.00	151

SC/ST, Scheduled caste/scheduled tribe.

For conflict intensity, we estimated the following relationship:

$$\text{Intensity}_{ji} = \psi_1 N_{ji} + \psi_2 Z_{ji} + \omega_{ji} \quad (2)$$

Intensity_{ji} is measured by counts of Maoist violent incidents or battle deaths in a district j in state i. Since the intensity of conflict is measured using count variable(s), we estimated our cross-sectional regressions employing the negative binomial estimator by controlling for district effects. Our data on the number of violent incidents and battle deaths were strongly skewed to the right (with an accumulation of observations at zero) and displayed significant over-dispersion. We therefore employed the negative binomial estimator rather than the Poisson method (e.g. see Beck and Katz, 1995; Cameron and Trivedi, 1998; Lawless, 1987).[8]

Explanatory variables

We tested characteristics specific to the Maoist conflict in our vector $N_{ji.}$ We constructed several of our variables using data from the 2001 Indian population census and district profiles based on official data. While this data pre-dates our dependent variables measuring Maoist violence from 2004 to 2010, it is the most recent socio-economic district-level data available. Furthermore, many rural socio-economic development indicators change relatively slowly. Moreover, several of these variables were constructed using the 2001 census data collected prior to the conflict data we have used, partially mitigating concerns regarding reverse causality, as it is unlikely that conflict between 2004 and 2010 caused the variables derived from the 2001 census.[9]

We used logged district-level per capita GDP for the year 2001[10] to measure income aspects of development (Planning Commission of India, 2001). To measure state provision of public goods, we created a factor index from four variables, which measures the percentage of villages with access to primary health centres, education centres, water facilities and paved roads. To measure the effect of SC/ST populations, we used the percentage of the total population made up of members of scheduled castes and scheduled tribes at the district level taken from the Indian census district profiles (2001).[11] For our mining hypotheses, we employed a measure of the relative value of mining in a district.[12] We used the per capita value of coal and iron mining and quarrying in millions of rupees for the 2006/2007 fiscal year, which we then log transformed.[13] This data was collated through analysis of information provided by the Ministry of Mines, Ministry of Coal and Ministry of Steel on coal and iron production. Although we did not capture district-level information on the entirety of mining in our study, iron and coal mining represent over 90% of total mining production in our selected states.

We have two caveats on how mining was measured. First, our data does not capture changes over time, evidenced by lower than expected values of mining-related GDP in some districts that have seen substantial increases in both mining and violence over the past decade. Second, there is a significant amount of illegal mining in India, which is not recorded in official revenues. This undervalues natural resource extraction in some districts. Because of issues regarding both data availability and face validity in measuring mining value in a district, we expect that our results may *underestimate* the value of mining in some districts, and thus the relationship between mining and conflict.

Finally, to address the effect of rural development programmes, we included a variable measuring the average percentage of households between 2006 and 2010 employed under NREGA in each district. This information was taken from NREGA's aggregated state reports at the district level.

Interaction effects

We tested our two contextual hypotheses with two interaction terms. We tested the effect of mining in districts with greater SC/ST populations by interacting log-transformed per capita value of coal and iron mining and quarrying with the SC/ST percentage in the total population at the district level. To test the effect of mining in the context of poor state capacity or poverty, we interacted our logged per capita coal and iron mining variable with logged per capita GDP at the district level.

Control variables

We tested a vector of control variables (Z_{ji}), drawn from previous cross-national studies of civil violence (Bohara et al., 2006; Collier et al., 2009; Do and Iyer, 2007; Fearon, 2004; Fearon and Laitin, 2003; de Soysa, 2002). First, we included a variable measuring the total population at the district level, log-transformed to adjust for a non-normal distribution. This variable both captures the effects of the pressures on renewable natural resources (e.g. Homer-Dixon, 1999; Homer-Dixon and Blitt, 1998), and controls for, all things being equal, more populous districts experiencing more violent incidents and a greater number of battle deaths. We included the district-level literacy rate taken from the 2001 Indian census profiles. Literacy rates are considered to be a good indicator of human capital and a reflection of livelihood options and expected future income (Collier and Hoeffler, 1998, 2004). It follows that, where literacy rates are low, future economic returns may be expected to be lower, reducing the opportunity cost to rebel. Further, specific to the Indian context is that the literacy rate also represents citizens' access to justice and representation in the legal system (Rukare, 2006).

Third, insurgent actors often favour areas that lie beyond the state's reach (Fearon and Laitin, 2003). In India, the Maoists indeed favour densely forested areas. We measured the effect of remoteness and lack of state reach using the percentage share of a district that is covered in forested area, and 'ruralness' as a percentage of the district population living in urban areas to control for this effect. Population, urbanization and forest area variables were taken from the Government of India's census district profiles (Government of India, Registrar General and Census Commissioner, 2001). Fourth, we tested the claim that land grievances may create horizontal cleavages that motivate rebellion, and that path-dependent colonial institutions exacerbate land inequalities (Banerjee et al., 2005). We dummy coded with a 1 if a district was under the British direct rule and 0 otherwise using data from Banerjee et al. (2005). Essentially, where British-created landlord institutions have persisted (Iyer, 2010), collective action is weakened, enabling unfairly compensated land claims by public and private interest groups. Violence may be greater in such districts as land-related grievances may support Maoist recruitment, especially given the movement's initial foundations in land grievances a generation before. Finally, many conflicts expand beyond where they originated (Hegre et al., 2009). Pertinently, the Maoists are highly mobile given the lack of 'territoriality' in their demands (they are not separatist, for example). We therefore included the count of lethal conflict incidents in immediately neighbouring districts to capture possible spillover effects.

Empirical results

We present our cross-sectional estimations at the district level for the period 2004–2010. In Table 2, the first column analyses the *presence* of lethal Maoist events, and columns 2–4 analyse the *frequency* of lethal Maoist events. Table 3 presents conflict *intensity* measured by the total number of casualties from Maoist-related violence. For conflict presence in column 1 in Table 2 we used the probit estimation technique, while for frequency of lethal events and battle deaths we used negative binomial regressions. Hypotheses 1–3 were tested in our baseline models for conflict incidence (column 1, Table 2), frequency (column 2, Table 2) and severity (column 1, Table 3). Our fourth hypothesis was tested in interaction models for frequency in columns 3 and 4 of Table 2; and for severity in columns 2 and 3 of Table 3. All effects at the mean for explanatory variables are reported in all tables.[14]

Our main results are generally consistent across models, with several variables standing out as consistent and robust correlates of presence, frequency and severity of Maoist activity. Our results support previous theories of civil conflict and insurgency, while extending understanding of conflict drivers in Maoist-affected states. Intriguingly, they indicate that conflict is most likely in districts where local exclusionary grievances coincide with economic conditions that make organization of rebellion more feasible.

Hypothesis 1

We found some support for developmental drivers of conflict in hypothesis 1. First, lower district level per capita GDP is related to greater frequency and severity of Maoist violence (column 2, Table 2 and column 1, Table 3). A standard deviation increase in logged per capita GDP, for example, is associated with a decline of roughly one battle death. We did not, however, find support for lower availability of public goods being related to Maoist violence, with our baseline models remaining insignificant despite their negative sign. Our results strongly support the third aspect of

Table 2. Conflict incidence and frequency

Variables	(1)	(2)	(3)	(4)
	Conflict incidence	Conflict events	Conflict events	Conflict events
	Probit	Nbreg	Nbreg	Nbreg
District per capita GDP (log)	−0.623	−0.713*	−0.510	−0.505
	(1.58)	(1.84)	(1.33)	(1.30)
Basic public goods access	0.133	−0.229	−0.333*	−0.230
	(0.68)	(1.25)	(1.86)	(1.32)
SC/ST population share	0.019*	0.048***	0.036***	0.045***
	(1.89)	(4.87)	(3.39)	(4.36)
Per capita iron and coal mining revenue (log)	0.135	0.016	−0.792***	9.035***
	(0.69)	(0.10)	(2.91)	(2.61)
Household share under NREGA	−0.007	−0.092***	−0.081**	−0.092***
	(0.32)	(2.66)	(2.52)	(2.78)
Total population (log)	0.631**	1.050***	1.015***	0.977***
	(2.39)	(3.50)	(3.52)	(3.26)
Total literacy rate	−0.020*	−0.015	−0.011	−0.013
	(1.66)	(1.11)	(0.81)	(0.96)
Forest area share	0.049***	0.030**	0.031***	0.027***
	(2.63)	(2.38)	(2.67)	(2.70)
Urbanization rate	0.002	0.007	0,007	0,006
	(0.14)	(0.42)	(0.48)	(0.36)
British direct rule dummy	−0.138	−0.025	−0.144	−0.023
	(0.42)	(0.07)	(0.45)	(0.07)
Conflicts in neighbouring districts	0.010	0.008***	0.009***	0.007***
	(1.46)	(2.68)	(2.97)	(2.68)
Per capita iron and coal mining revenue (log) × SC/ST population share			0.015***	
			(3.22)	
Per capita iron and coal mining revenue (log) × district per capita GDP (log)				−0.949***
				(2.66)
Total observations	140	140	140	140

Standard errors in parentheses: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. Reports average marginal effects holding covariates at mean.

our first hypothesis, with greater SC/ST share of the population being related to greater incidence, frequency and severity of violence in all model specifications. This suggests that the presence of excluded populations may provide insurgents with a source of support or a pool to recruit from.

Hypothesis 2

Our second hypothesis, that the value of mining GDP would co-vary with Maoist violence, was not well supported. We found that mining making a greater share of district GDP is unrelated to the presence, frequency and severity of Maoist violence (columns 1 and 2 in Table 1, and column 1 in Table 3, respectively), with mining share variables taking a positive sign but remaining not significantly different from zero.[15] This is surprising given anecdotal evidence from previous fieldwork,

Table 3. Conflict severity

Variables	(1)	(2)	(3)
	Battle deaths Nbreg	Battle deaths Nbreg	Battle deaths Nbreg
District per capita GDP (log)	−1.283***	−1.123***	−1.004**
	(2.94)	(2.73)	(2.32)
Basic public goods access	−0.250	−0.370**	−0,264
	(1.37)	(2.06)	(1.48)
SC/ST population share	0.048***	0.034***	0.042***
	(4.54)	(3.21)	(3.62)
Per capita iron and coal value (log)	0.141	−0.943***	13.045***
	(0.72)	(3.18)	(2.73)
Household share under NREGA	−0.129***	−0.115***	−0.126***
	(3.51)	(3.47)	(3.60)
Total literacy rate	−0.003	0.002	−0.002
	(0.22)	(0.14)	(0.13)
Total population (log)	0.747**	0.733**	0.673**
	(2.31)	(2.38)	(2.15)
Forest area share	0.031**	0.031***	0.027***
	(2.39)	(2.74)	(2.68)
Urbanization rate	−0.002	0.002	−0.004
	(0.12)	(0.14)	(0.26)
British direct rule dummy	0.184	0.045	0.179
	(0.50)	(0.13)	(0.50)
Conflicts in neighbouring districts	0.009**	0.010***	0.008**
	(2.42)	(2.79)	(2.45)
Per capita iron and coal mining revenue (log) × SC/ST population share		0.019***	
		(3.71)	
Per capita iron and coal mining revenue (log) × district per capita GDP (log)			−1.356***
			(2.76)
Number of observations	140	140	140

Standard errors in parentheses: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. Reports average marginal effects holding covariates at mean.

yet we acknowledge that the presence of mining alone may not be a sufficient condition to engender violence, but depend on a confluence of other factors related to socio-economic exclusion, tested in Hypothesis 4.

Hypothesis 3

We also saw a strong relationship between greater numbers of households covered by the NREGA programme and lower incidence, frequency and severity of violence. This implies that there may be peaceful returns to the programmes the Indian state has employed in its attempts to securitize development. We are cautious about this interpretation as we cannot assess the causal direction of the relationship. It is possible that, in districts less threatened by insurgent violence, programmes

designed to win rural 'hearts and minds' are more easily implemented; or that in more violent districts it is more difficult to reach target populations.

Control variables

Our controls generally show support for structural factors related to violence that emerge from the quantitative literature. For nearly all specifications, districts with larger populations experience greater levels of violence. This is consistent with previous findings at the district (Bohara et al., 2006; Borooah, 2008; Do and Iyer, 2007) and state level in India (Urdal, 2008). For our measures of geographic remoteness, we found that districts with large forest shares are consistently correlated with the presence of Maoist activity, emphasizing how lack of state reach and poor infrastructure support the conditions for insurgency. However, we found no strong support for the level of urbanization in districts being significantly related to Maoist violence. While results are not robust, this insignificant effect might stem from insurgency favouring rural areas and migration to urban areas easing pressure on rural resources.[16]

We found little support for literacy rates being linked with conflict, with only conflict incidence being weakly correlated with literacy rates, suggesting that human capital measured this way is not strongly related to conflict. No evidence was found that districts with landlord colonial institutions are related to Maoist conflicts in any of our specifications, yet we did find consistent support that violence is greater in districts sharing borders with other districts themselves experiencing Maoist attacks. Tables 1 and 2 indicate that the incidence, frequency and severity of Maoist violence are positively and significantly related to the number of lethal events in neighbouring districts. This finding is robust to all model specifications for our three dependent variables, and indicates that cross-border spillover effects may be occurring in these six Indian states, supporting similar previous findings at the national and sub-national level (Hegre et al., 2009).[17] Furthermore, the mobility of Maoists and their propensity to cross borders to evade the reach of Indian forces is at least partially driving the association between violence in neighbouring districts.

Taken together, our baseline results provide an interesting picture about Maoist violence in India. It appears that poorer districts with larger tribal and caste populations are more likely to experience violence, and that development programmes to address grievances may be associated with lower violence. Similarly, the insurgency is mobile and spills across borders; it also benefits from operational advantages in remote or rough terrain. While mines (both legal and illegal) provide opportunities and incentives for actors on all sides to loot resources to finance their operations, our results do not support the anecdotal evidence in previous fieldwork that the value of mining operations alone is the core factor driving the conflict.

Interaction effects

The inclusion of additional interaction terms reiterates that the relationship between motive and opportunity in the Maoist insurgency is nuanced. Given that we found only minimal support that mining GDP is related to conflict, our fourth hypothesis assessed how the interaction of mining and development may lead to violence. First, we interacted logged per capita mining revenues with SC/ST population share, assessing whether rebels are more active in engaging in violence where local grievances coincide with feasibility to organize costly conflict – namely where the probability for material and financial gain is higher. The results in column 3 in Table 2 and column 2 in Table 3 show a positive relationship between the interaction term and conflict frequency and severity, suggesting that conflict is highest in places where mining activities coincide with higher levels of

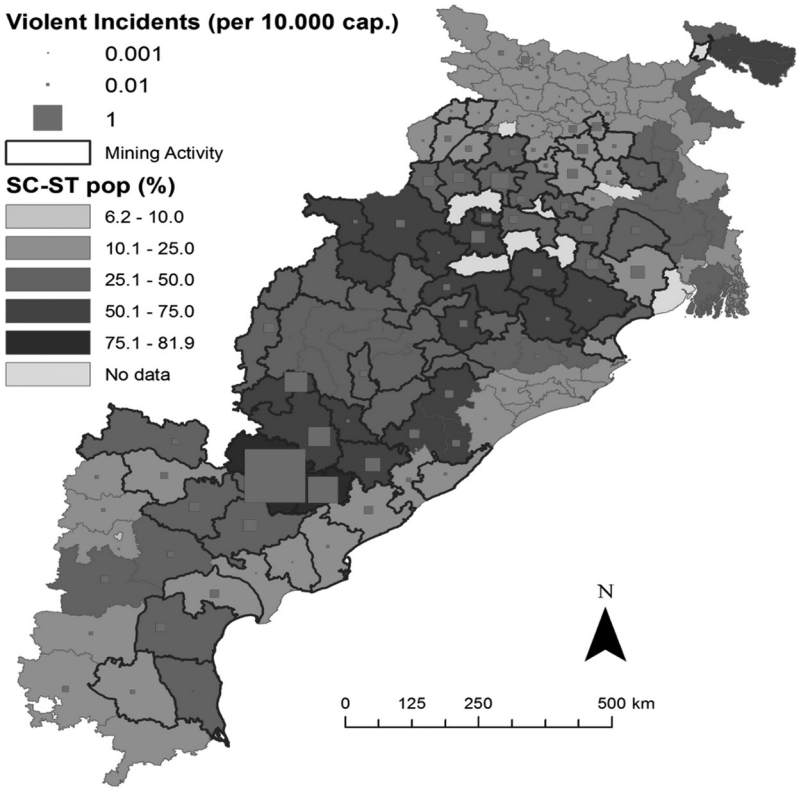

Figure 1. Maoist conflict, mining districts and scheduled caste and tribe population share. Map designed by Jan Ketil Rød and Krishna Vadlamannati.

grievances. These results are highlighted in Figure 1, showing the significant overlap between SC/ST populations, mining activities and violence.

Additionally, economic inclusion may explain why some districts with the presence of mining activity have escaped Maoist violence. As a second measure, we interacted per capita GDP with per capita mining revenues. As seen from column 4 in Table 2 and column 3 in Table 3, the interaction term is negative and significantly different from zero at the 5% level, suggesting that, in poorer areas where opportunity cost to rebel is lower or state capacity weaker, the conflict-inducing effects of mining increase. It may therefore be the combination of socio-economically excluded populations and mining operations that is conflict-inducing. This may partly explain why some regions with significant mining presence have little Maoist violence.

Checks on robustness

We examined the robustness of the main findings. Following Brandt et al. (2000) and King (1988), we estimated all the results reported here using zero-inflated negative binomial regression as an alternative estimate technique. Results from this alternative estimation technique support our earlier baseline findings. Second, we clustered the standard errors at state level, with no major differences between the baseline models reported in Tables 2 and 3. Third, as an additional test for

robustness, we excluded the handful of observations with extreme values for both conflict incidents and battle deaths.[18] Our results were essentially unchanged having done so, and were not driven by extreme values or influential observations. Finally, we also excluded districts in Chhattisgarh state, where much of the violence is recorded, from our original sample of six states. The results without the state of Chhattisgarh, although remaining qualitatively unchanged, showed a marginal decline in the statistical significance of interaction terms in comparison to those reported in baseline models in Tables 2 and 3. Overall our checks for robustness incorporated alternative estimation techniques, model specifications and samples, and tended to support our stated results.[19]

Conclusions and considerations for future research

We have three primary findings. First, Maoist violence is greater where SC/ST populations form a high percentage of the population. Second, most socio-economic and government capacity factors only find marginal support in our model. Third, the relationship between mining and violence in our model is positive, but weak, yet becomes much stronger where there are high levels of socio-economically excluded populations. This is important, as it highlights the nuanced relationships between motives and incentives to engage in insurgency. It also asks important questions regarding the causal processes that underlie our findings. Our findings lend support to idea that, where Maoists have an ideological base of excluded citizens combined with the means to finance operations, violence is likely to be greater. We also found that violence is related to border districts (mobility), forest cover (access) and targeted government development programmes (NREGA). Taken together, the results show that neither the grievance-based arguments presented by the Maoists (hearts) nor the greed-driven factors (mines) are supported by our results as fundamental explanations for insurgency – even though both carry substantial anecdotal power in the conflict zone.

As the initial phases of the conflict, rhetoric on all sides and our interviews with both current and ex-combatants paint a different picture, these findings require further explanation. Owing to the mobility of the Maoists, and their lack of ties to one particular 'homeland' or other essential territory (as a separatist movement would have), strategic decisions about *where* to fight may outweigh localized rationales for *why* people fight. Further research is needed to determine if justice-based demands related to exclusion drive recruitment. In support of this assessment is the conflict's shift away from more 'traditional' theatres of conflict in its nascent stages (primarily West Bengal and Andhra Pradesh) to the resource-rich states of Jharkhand, Orissa and Chhattisgarh – which also is supported by our 'border districts' correlation. In this way, rebel incentives and opportunities may be symbiotically intertwined, feeding off each other to increase conflict.

This assessment should temper the popular view both in India and abroad that 'development' of poor districts is the solution to the Maoist conflict, particularly when no distinction is made for the specific needs of SC/ST communities beyond limited constitutional guarantees, or when development in practice takes the form of industrial expansion instead of social service provision. Driven to maximize mining output, Delhi has been under tremendous industrial and political pressure since 1991 not only to maintain existing mining projects, but also to rapidly expand into mineral-rich SC/ST populated lands. To wit, the formation of the states of Chhattisgarh and Jharkhand was sold in 2000 to many SC/ST citizens as 'safe zones' for tribal populations, with promises of equitable resource redistribution. Instead, they became the focal point of the conflict zone while remaining mining havens – suggesting that elements of horizontal inequality may be fuelling conflict, not the vertical inequality measures that dominate headlines and qualitative narratives.

Regarding forward potential, Whiteman (2009) and Hibbard et al. (2008) tie the relationship of indigenous communities to natural resource extractors, finding that organizational justice and indigenous resource planning and management mechanisms, respectively, can help to bridge the gaps between needs of the corporate, government and commons. Our findings may suggest that it is not a lack of development that triggers conflict, but the inverse – a ramping up of industrial development, without safeguards to prevent further exclusionary socio-economic policies towards citizens living in mining districts, may draw in conflict actors as they transit from opportunity- to incentive-based decision-making. Put another way, this may suggest a 'grievance then greed' model that exacerbates conflict where resources are present – a scenario also seen anecdotally in rebel group conflict timelines elsewhere. While future research will help to further refine the triggers and trends that influence the Maoist conflict, continuing to fail the 'hearts' of SC/ST communities through exclusionary development while expanding 'pro-growth' mining practices within the same districts may continue to breed conflict in the name of resolution.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Notes

1 Author contributions were equal, and order is alphabetical. The data and do files for replication can be obtained upon request from kristian.hoelscher@stv.uio.no
2 Without undertaking a comprehensive survey of Maoist fighters it is difficult to determine which districts fighters themselves come from. For this reason, any study attempting to make claims on the relationship between district-level (or even state-level) indicators and rebel recruitment without this data will be fundamentally flawed, which is the reason for our omission of this important issue.
3 We acknowledge a potential reverse causality problem in that Maoist violence may hinder basic service provision, yet our use of lagged conflict data partially mitigates this.
4 We do not (and cannot without studying every case individually) determine victim allegiances upon reported but often factually dubious accounts, be it 'civilian', 'insurgent', 'army' or 'pro-government militia' member. Most sources divide deaths at roughly one-third civilian, one-third insurgent and one-third government.
5 We developed a set of coding rules to determine inclusion of events. First, the district where the event took place was established, with events included if: (1) the district itself was mentioned; (2) it took place in a locatable town, village or geographical area within the district; or (3) it took place at another location that coders were able to locate as being within the district (for instance a specific forest). Second, events were only included if we could determine that they were directly related to Maoist issues, such as attacks on citizens, state actors or reprisals by the state. Third, events were coded as discrete if: (1) it was possible to distinguish between different actors and targets; (2) events took place in different locations; or (3) reported motives for the events were clearly different.
6 These biases are unfortunately inherent to all datasets that are primarily based on news reports.
7 Also, the UPA government came into power in 2004, providing an opportune marker for rural development policy assessment.
8 This choice is supported by the results of 'goodness-of-fit' tests indicating the appropriateness of using negative binomial methods rather than Poisson estimation method.
9 While events in the past cannot be caused by events in the future, it is clear that there is some inertia in the levels of conflict. The current design does not allow us to test the effect of conflict in previous years, and is thus susceptible to problems of reverse causality – where previous conflict may be related to both current conflict and our explanatory variables. While our independent variables are from prior to our conflict data years, we acknowledge reverse causality as a potential problem that is not entirely solved.

10 Measured in 1999 constant dollars.
11 We also consider that it may be only tribal populations that respond to Maoist calls for rebellion. We have run separate models including only scheduled tribal populations with no differences in results.
12 We also create a dummy variable assessing the presence or absence of any mining-related revenue in a district. Substituting this variable for per capita mining revenues does not change any of our core results and we choose to omit them here.
13 When log transforming we added a 1 to zero values before logging. We ran all analyses without log transformation with no any changes to results.
14 We use Stata 11.0's margins command to calculate marginal effects.
15 This is in line with the findings of Brunnschweiler and Bulte (2009), who find no effect of natural resources on outbreak of violent conflict after controlling for institutions and treating natural resources variables as endogenous.
16 Seemingly, though, the 'rural' dimensions that this variable measures may be better captured in other measures, such as basic service provision or percentage forest share.
17 This may also indicate spatial dependency between districts.
18 Districts excluded are Dantewada, Midnapore, Malkangiri, Latehar and Bastar.
19 The robustness check results are not shown here owing to space limitations, but are available upon request.

References

Arellano-Yanguas J (2011) Aggravating the resource curse: Decentralisation, mining and conflict in Peru. *Journal of Development Studies* 47(4): 617–638.

Bahree M (2010) The forever war: Inside India's Maoist conflict. *World Policy Journal* 27(2): 83–89.

Banerjee A, Iyer L and Somanathan R (2005) History, social divisions and public goods in rural India. *Journal of the European Economic Association* 3(2–3): 639–647.

Banerjee K (2010) *Social Development Report 2010*. New Delhi: Oxford University Press.

BBC (2010) India battles Maoist influence with jobs scheme. Available at: http://www.bbc.co.uk/news/world-south-asia-10609424 (accessed 11 March 2011).

Beck N and Katz JN (1995) What to do (and not to do) with Time-Series Cross-Section data. *American Political Science Review* 89(3): 634–647.

Berman E, Shapiro J and Felter J (2011) Can hearts and minds be bought? The economics of counterinsurgency in Iraq. *Journal of Political Economy* 119(4): 766–819.

le Billon P (2001) The political ecology of war: natural resources and armed conflicts. *Political Geography* 20: 561–584.

le Billon P (2004) The geopolitical economy of 'resource wars'. *Geopolitics* 9(1): 1–28.

le Billon P (2008) Diamond wars? Conflict diamonds and geographies of resource wars. *Annals of the Association of American Geographers* 98(2): 345–372.

Blattman C and Miguel M (2010) Civil war. NBER Working Paper 14801.

Bohara AK, Mitchell NJ and Nepal M (2006) Opportunity, democracy and political violence: A sub-national analysis of conflict in Nepal. *Journal of Conflict Resolution* 50(1): 108–128.

Borooah V (2008) Deprivation, violence, and conflict: An analysis of 'Naxalite' activity in the districts of India. *International Journal of Conflict and Violence* 2(2): 317–333.

Bosworth B, Collins S and Virmani A (2006) *Sources of Growth in the Indian Economy*. Washington, DC: Brookings Institution.

Brandt Patrick T, Williams JT, Fordham BO and Pollins B (2000) Dynamic models for persistent event count time series. *American Journal of Political Science* 44(4): 823–843.

Brunnschweiler CN and Bulte EH (2009) Natural resources and violent conflict: Resource abundance, dependence and the onset of civil wars. *Oxford Economic Papers* 61(4): 651–674.

Cameron A and Trivedi P (1998) *Regression Analysis of Count Data*. Cambridge: Cambridge University Press.

Collier P and Hoeffler A (1998) On economic causes of civil war. *Oxford Economic Papers* 50(4): 563–573.

Collier P and Hoeffler A (2004) Greed and grievance in civil war. *Oxford Economic Papers* 56(4): 536–595.
Collier P, Hoeffler A and Rohner D (2009) Beyond the greed and grievance debate: Feasibility and civil war. *Oxford Economic Papers* 61: 1–27.
Do QT and Iyer L (2007) *Poverty, Social Divisions, and Conflict in Nepal*. HBS Finance Working Paper 07-065. Harvard, MA: Harvard Business School.
Duffield M (1998) Post-modern conflict: Warlords, post-adjustment states and private protection. *Civil Wars* 1(1): 65–102.
Fearon J (2004) Why do some civil wars last so much longer than others? *Journal of Peace Research* 41(3): 275–302.
Fearon J and Laitin D (2003) Ethnicity, insurgency, and civil war. *American Political Science Review* 97(1): 75–90.
Gomes, JF (2011) The political economy of the maoist conflict in India: An empirical analysis. Working paper. Universidad Carlos III de Madrid, Spain.
Government of India (2010) *Ministry of Mines*. Available at: www.mines.nic.in/ (accessed 20 September 2011).
Government of India (2011) *Approach to the 12th 5 Year Plan*.
Government of India, Ministry of Rural Development (2010) *NREGA Annual Reports 2004–2010*. Available at: www.nrega.nic.in/ (accessed 20 September, 2011).
Government of India, Registrar General and Census Commissioner (2001) *Census Data, 2001*. Available at: http://www.censusindia.net/ (accessed 15 March 2011).
Green L (1994) Fear as a way of life. *Cultural Anthropology* 9(2): 227–256.
Hegre H, Østby G and Raleigh C (2009) Poverty and civil war events: A disaggregated study of Liberia. *Journal of Conflict Resolution* 53(4): 598–623.
Hibbard M, Lane MB and Rasmussen K (2008) The split personality of planning indigenous peoples and planning for land and resource management. *Journal of Planning Literature* 23(2): 136–151.
Homer-Dixon T (1999) *Environment, Scarcity and Violence*. Princeton, NJ: Princeton University Press.
Homer-Dixon T and Blitt J (1998) *Ecoviolence: Links among Environment, Population and Security*. Lanham, MD: Rowman Littlefield.
Human Rights Watch (2008) *Being Neutral is Our Biggest Crime*. New York: Human Rights Watch Publications.
Humphreys M and Weinstein J (2008) Who fights? The determinants of participation in civil war. *American Journal of Political Science* 52(2): 436–455.
Iyer L (2009) The bloody millennium: Internal conflict in South Asia. Harvard BGIE Working Paper 09-086.
Iyer L (2010) Direct versus indirect colonial rule in India: Long-term consequences. *The Review of Economics and Statistics* 92(4): 693–713.
Kalyvas SN (2006) *The Logic of Violence in Civil War*. Cambridge: Cambridge University Press.
Keen D (2008) *Complex Emergencies*. London: Polity.
King, G (1988) Statistical models for political science event counts: Bias in conventional procedures and evidence for the exponential Poisson regression model. *American Journal of Political Science* 32(3): 838–863.
Kolås Å and Miklian J (2009). Intractable India: Revisiting Indian conflict management strategies. *Journal of Conflict Management and Development* 3(3): 1–17.
Lawless J (1987) Negative binomial and mixed Poisson regression. *The Canadian Journal of Statistics* 15(3): 209–225.
Lujala P (2010) The spoils of nature: Armed civil conflict and rebel access to natural resources. *Journal of Peace Research* 47(1): 15–28.
Miklian J (2009) The purification hunt: The Salwa Judum counterinsurgency. *Dialectical Anthropology* 33(3–4): 441–459.
Miklian J (2011) Revolutionary conflict in federations. *Conflict Security and Development* 11(1): 25–53.
Miklian J (2012) The political ecology of war in Maoist India. *Politics, Religion and Ideology* in press.
Miklian J and Carney C (2010) Fire in the hole. *Foreign Policy* August. Available from: http://www.foreign-policy.com/articles/2010/08/16/fire_in_the_hole

Ministry of Home Affairs (2010) Annual Report 2010. Available from: *www.mha.nic.in/*

National Counter Terrorism Center, Worldwide Incident Tracking System (2010). Data available from: www.nctc.gov/site/other/wits.html

Navlakha G (2010) Days and nights in the Maoist heartland. *Economic and Political Weekly* 35(16): 38–47.

Oxford Poverty and Human Development Initiative (2010) *Multidimensional Poverty Index*. Oxford: Oxford University/UNDP Press.

People's March (2010) Whose development is it anyway? *People's March* 11(5): 27–34.

People's Union for Civil Liberties (2006) *Where the State Makes War on Its Own People*. New Delhi: PUCL.

Piazza J (2010) Terrorism and party systems in the states of India. *Security Studies* 19(1): 99–123.

Planning Commission of India (2001) *Development Challenges in Extremist Affected Areas*. New Delhi: Planning Commission of India

Poddar T and Yi E (2007) *India's Rising Growth Potential*. Global Economics Paper no. 152. Washington, DC: Goldman Sachs Economic Research.

Regan PM and Norton D (2005) Greed, grievance, and mobilization in civil wars. *Journal of Conflict Resolution* 49(3): 319–336.

Remøe K (2010) Grievance, greed and feasibility in internal conflict: What explains the Naxalite insurgency in India? MSc thesis, Norwegian University of Science and Technology, Norway.

Ross M (2004a) How do natural resources influence civil war? Evidence from thirteen cases. *International Organization* 58: 35–67.

Ross M (2004b) What do we know about natural resources and civil war? *Journal of Peace Research* 41(3): 337–356.

Rukare D (2006) Access to justice and the rule of law. Report presented at National Consultation Conference, Legal Empowerment of the Poor, Kampala.

Sawyer S and Gomez ET (2008) Transnational governmentality and resource extraction. United Nations Research Institute for Social Development: Identities, Conflict and Cohesion Paper 13.

Shah A (2011) India burning: The Maoist revolution. In: Clark-Deeds I (ed.) *A Companion to the Anthropology of India*. Oxford: Blackwell.

Shah A and Pettigrew J (2009) Windows into a revolution: Ethnographies of Maoism in South Asia. *Dialectical Anthropology* 33(3): 225–251.

South Asian Terrorism Portal (2011) *2004–2010 Maoist Activity*. Data available from: www.satp.com/ (accessed 15 September 2011).

de Soysa I (2002) Paradise is a bazaar? Greed, creed, and governance in civil war 1989–99. *Journal of Peace Research* 39(4): 395–416.

de Soysa I and Binningsbø H (2009) Devil's excrement or social cement? Oil wealth and repression, 1980–2004. *International Social Science Journal* 57(1): 21–32.

Suykens B (2010) Maoist martyrs: Remembering the revolution and its heroes in Naxalite propaganda. *Terrorism and Political Violence* 22: 378–393.

Urdal H (2008) Population, resources and violent conflicts: A sub-national study of India 1956–2002. *Journal of Conflict Resolution* 52(4): 590–617.

Vadlamannati KC (2012) A race to compete for investments among Indian states? An empirical investigation. Unpublished Manuscript: Heidelberg.

Verma S (2011) *Far-Reaching Consequences of the Naxalite Problem in India*. New Delhi: Rakshak Foundation Report.

Weinstein J (2008) *Inside Rebellion: The Politics of Insurgent Violence*. Cambridge: Cambridge University Press.

Whiteman G (2009) All my relations: Understanding perceptions of justice and conflict between companies and indigenous peoples. *Organization Studies* 30(1): 101–120.