“Site Fights”: Explaining Opposition to Pipeline Projects in the Developing World

Doug McAdam, Hilary Schaffer Boudet, Jennifer Davis, Ryan J. Orr, W. Richard Scott, and Raymond E. Levitt

Fifty years ago, the main challenges to large infrastructure projects were technical or scientific. Today, the greatest hurdles faced by such projects are almost always social and/or political. Whether constructing large dams in the developing world or siting liquefied natural gas terminals in the United States, the onset of these projects often triggers intense popular opposition. But not always, and therein lays the animating aim of this project. We undertake a systematic comparative case analysis of mobilization efforts against 11 oil and gas pipeline projects spanning 16 countries in the developing world. Using theories from the social movement and facility siting literatures and the technique of fuzzy set/qualitative comparative analysis (fs/QCA), we examine the "causal conditions" linked to

1 We owe the clever phrase, "site fights," to Daniel P. Aldrich, who recently published a book entitled Site Fights: Divisive Facilities and Civil Society in Japan and the West (2008, Cornell University Press). No piece of published scholarship ever depends on the authors alone, but in this case, our debt to others is much greater than normal. This article is only a small part of a much larger, ongoing project that has drawn on the labors of a large number of faculty and graduate students at Stanford University. Our first and largest debt of gratitude goes to all the graduate students (and a few courageous undergraduates) who have participated in the project. These include: Henry Chan, Cheryl Chi, Mo Peng, Andrew Peterman, Linh Pham, Amanda Sharkey, Meg Waltner, and Amy Javernick Will. But no graduate student deserves more thanks for help on the project than Dilanka Clinthana "D.C." Jayasundera. Not only has D.C. been involved in the project from the outset, but he has also served as one of two principal coders and data analysts on this particular piece of research. Stanford was the source, not only for faculty and graduate student collaborators, but for critical funding support as well. Without a seed grant from the Freeman Spogli Institute for International Studies, we would never have been able to undertake the research in the first place. In collecting data on our 16 cases, we benefited enormously from information given to us by informants affiliated with a number of NGOs and lenders with personal knowledge of the projects we were seeking to understand. We also owe a great deal to the late Richard Burt, who advised on the project up until his untimely death in 2007. From Rick, we learned about the dynamics of infrastructure projects from the firm point of view. Finally, we cannot say enough about the help, advice, and patient counsel we received from Charles Ragin as we sought to employ his comparative case method as the analytic basis for our research.

2 Department of Sociology, Stanford University, 450 Serra Mall, Building 120, Stanford, California 94305.
3 Stanford University, 473 Via Ortega, Y2E2 Room 226, Stanford, California 94305-4210; e-mail: hilschaf@stanford.edu (corresponding author).
4 Stanford University, 473 Via Ortega, Y2E2 Room 255, Stanford, California 94305-4020.
5 Stanford University, 784 14th Avenue, Menlo Park, California 94025.
6 Stanford University, 940 Lathrop Place, Stanford, California 94305.
7 Stanford University, 776 Tolman Drive, Stanford, California 94305.
political and legal opposition to these projects. We find that both Western funding of projects and public consultation serve as necessary political opportunities encouraging mobilization. In addition, not compensating the host country for involvement in the project is linked to mobilization. Finally, some risk from the project, in the form of environmental or social impact, is associated with mobilization; however, this impact does not have to be very significant for mobilization to occur.

KEY WORDS: developing world; environment; local communities; mobilization; risk; social movements.

INTRODUCTION

The study of social movements has grown remarkably over the past three decades. From its modest beginnings in sociology in the 1970s, the field has expanded dramatically and become far more interdisciplinary in its focus. Yet for all the proliferation of research and new-found intellectual breadth, the field still bears much of the imprint of the period in which it emerged. The field developed apace of the New Left protest cycle of the 1960s and 1970s and in many respects remains oriented toward a 1960s image of contention and, as a number of commentators have noted, biased toward the study of Western-style reform movements (Almeida, 2003; Boudreau, 1996; Brockett, 2005; McAdam et al., 1996; Wickham, 2002).

This bias persists in the face of two broad trends that appear to be shifting the geographic locus of 1960s style protest activity away from the democratic West. Starting with Meyer and Tarrow’s (1997) volume entitled The Social Movement Society, the weight of speculative evidence continues to suggest that the social movement “form” has been largely institutionalized across the democratic West (McAdam et al., 2005). Institutionalization has meant an increase in formal social movement organizations (Minkoff, 1993, 1995), the development of “hybrid” forms of movement activity (Sampson et al., 2005), and a sharp decline in the kind of disruptive, public protest associated with the 1960s and 1970s (McAdam et al., 2005). By contrast, it seems clear that the last 30 years have witnessed a sharp increase in 1960s-style protest activity outside of the democratic West. This trend was perhaps signaled by the onset of Huntington’s “third wave” of democratization in the 1980s (Huntington, 1991), but would now seem to be less a trend than an established reality in many corners of the world.

Among the specific types of movements that diffused during this period is the one we take up here: movements designed to delay, block, or permanently disable large infrastructure projects. The spread of this particular category of movement would appear to mirror the general trend noted above. While infrastructure projects were usually completed in the first half of the twentieth century, resistance to such projects increased substantially and has remained high in the developed world since the early 1970s (Rucht, 2002). We see the same pattern unfolding in the developing world, only beginning 15–20 years later. Big dams were perhaps the first sector to be impacted by the trend
(Khagram, 2004), but all large infrastructure projects now appear to be susceptible to mobilized opposition, both from locally affected communities and international nongovernmental organizations (NGOs). Yet, despite the growth in such movements, there has been almost no research by scholars of social movements on opposition to infrastructure projects in the developing world. So what? Why should we care about the Western bias in the study of contention? The answer would seem obvious. If our theories of social movements were developed in relation to a geographically and temporally narrow range of cases, how do we know if they apply to episodes of contention in other times, places, and regime contexts? As Almeida (2003) noted, “even with the recent gains in explaining social movement emergence and outcomes, we still know relatively little about these same processes in authoritarian states, which tend to be much less homogeneous than core democracies.”

To address this gap in the literature, we conducted a comparative case study of 11 different oil and gas pipeline projects, spanning 16 different countries in the developing world. Our goal is to identify combinations of causal factors that are associated with the emergence of legal and political conflict within oil and gas pipeline projects. We differentiate legal conflict, or that occurring within the formal structures provided by the host country, project sponsor, or development agency for voicing concerns or opposition to a project, from political conflict, which occurs outside these structures.

The motivation behind the research reflects practical as well as intellectual concerns. The issue of infrastructure deficits in developing countries is vitally important, but also very complex. The importance of the issue derives from the stark infrastructure deficits projected for the developing world over the next 20–30 years. The consensus is that there will be another billion people on earth by 2015. Almost all that growth will take place within the poorest countries, and the ones already burdened with inadequate infrastructure (Sachs, 2005). Providing these populations with safe drinking water, sewage treatment, sustainable housing, adequate energy, and access to communication will require an estimated $1 trillion in infrastructure development over the next 5 years in East Asia alone, and upward of $5 trillion worldwide (Asian Development Bank et al., 2005).

The issue becomes even more complex, however, when we simultaneously recognize the right of local communities to exercise meaningful voice in the siting, construction, and operation of these facilities and the fact that, in the past, a good many of these projects were built to satisfy Western political and financial priorities and with correspondingly little regard for the well-being of either the host country or the people directly affected by the construction (Ferguson, 1990; Gary and Karl, 2003; Karl, 1997). In short, if we are to successfully address the looming infrastructure crisis, we will have to find a way to balance the rights of local communities to protect themselves from

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8 Anthropologists have, however, covered this subject, looking extensively at the effects of neoliberal development policy and displacement of locally affected populations (Conway, 2004; Fox and Starn, 1997; Kirsch, 2007; Shultz et al., 2009).
legitimate environmental, human rights, and other threats with the critical infrastructure needs facing the developing world. Understanding the dynamics of reactive resistance to such projects and, eventually, the kind of enlightened governance arrangements that give communities a meaningful say in their design and operation will be critical, not only to reducing Western exploitation of the developing world, but also to breaking the infrastructure gridlock that has come to characterize much of the globe.

SEARCHING FOR INSIGHTS: FOUR LITERATURES

In the absence of much work on the dynamics of opposition to infrastructure projects in the developing world, we have reviewed four literatures that focus largely on the developed world—social movements, the NIMBY (not-in-my-backyard) phenomenon, public participation, and facility siting—for insights to guide our research. We take up the social movements literature first and then review the other three literatures together.

Social Movements

Though our focus is community response to infrastructure projects, not movements per se, no literature has been as centrally concerned with the dynamics of emergent collective action as the large and rapidly expanding body of work on social movements and contentious politics. We are especially attuned, in this project, to two causal factors—opportunity/threat and resources—that have not only been widely emphasized in studies of social movements, but, as we note below, prominently featured in research on anti-infrastructure movements in developed countries.

We focus first on the longstanding emphasis on “opportunity and threat” in the social movements literature. Underlying this focus is the assumption that movements are very unlikely to develop under stable political conditions. Movements, in this sense, should be seen as responses to disruptive changes that either grant new opportunities/leverage to potential challengers or pose new threats to some segment of the population (Goldstone and Tilly, 2001; McAdam, 1999; Tarrow, 1998; Tilly, 1978). The relevance of this first factor—new political opportunities or threats—to siting decisions should be obvious. The provisional decision to site a facility in a particular location is precisely the kind of “exogenous shock” that has the potential to trigger collective action, as community groups come to define the decision as posing either a significant new threat to, or an opportunity to advance, their interests. However, the initial choice of site is not the only way that threat/opportunity can be manifest in our cases. We also want to pay close attention to two dimensions of threat/opportunity that have been shown in numerous studies to impact the development and/or success of movements. These are: (1) the
capacity for repression by social control agents and (2) the vulnerability of project proponents (public no less than private) to challenge. The latter factor is expected to increase the likelihood of opposition to infrastructure projects, while the threat of significant repression should diminish those prospects.

New threats or opportunities may create a motive for collective action, but without sufficient organizational resources—or what Carmin (2003) calls “community resources”—a sustained opposition movement is unlikely to develop. When it comes to organizational resources, there are two distinct emphases within the social movement literature. Theorists in the “resource mobilization” tradition emphasize the benefits of external resources or elite “sponsorship” in helping launch and sustain a movement (McCarthy and Zald, 1973; Minkoff, 1993; Staggenborg, 1988).9 “Political process” theorists, on the other hand, tend to emphasize the critical importance of grass roots community organizations or traditions of struggle to movement emergence. The consistent empirical finding here is that most successful movements are not born de novo, but either piggyback on earlier struggles of the same kind or develop within established social settings—existing organizations, informal networks—largely independent of elite control (Gould, 1995; McAdam, 1999; Morris, 1984; Osa, 2003; Zhao, 1998).

In applying these perspectives to our cases, we want to look closely at the role of NGOs as sponsors of emergent protest (as per resource mobilization) and/or evidence of a sustained tradition of struggle (in keeping with the political process perspective) in helping explain variation in level of opposition.

Although the study of opposition to infrastructure projects has not drawn as much attention from social movements scholars as some other movements in the developed world (i.e., conventional “rights”-based movements or political movements in general), a handful of important comparative studies have been published on this topic. These studies, which we examine below, highlight the importance of opportunity, threat, and resources in the development of opposition to infrastructure proposals. They also provide more concrete examples of which factors are important and how to measure them.

Walsh et al. (1993, 1997) conducted a comparative study of attempts to site incinerators in eight different communities in the northeastern United States. The authors found that opponents were more successful when they sought support outside the immediate community and used political, as opposed to legal, tactics. Grassroots networks were also important for opposition mobilization but seemed to form in response to the proposal, instead of from the preexisting “mobilizing structures” stressed in the social movement literature (Gould, 1995; McAdam, 1999).

9 The “world society” perspective also emphasizes external resources—normative as well as organizational—in accounting for increasing movement activity by environmentalists, feminists, and human rights activists in the contemporary world (Brysk, 2000; Frank et al., 2000; Keck and Sikkink, 1998; Paxton et al., 2006; Tsutsui, 2004). The argument is straightforward. As women’s rights, environmentalism, and human rights have attained normative “standing” in the international community, we should expect to see “local” activism around these issues in those countries that are most integrated into the world system.
Carmin (2003) examined the role of community resources and political opportunities in shaping the responses of more than 200 Czech communities to proposed landfills, incinerators, and highways, among other projects. She found that greater political opportunities—as measured by political access, disagreement among elected officials, presence of elite allies, and political representation—were associated with higher levels of individual participation (i.e., letter writing, etc.), while increased community resources facilitated higher levels of institutional (i.e., town meetings, etc.) and/or collective (i.e., protests, petitions, etc.) action.

In his dissertation, Sherman (2004) sought to explain variation in level of opposition across 21 U.S. counties selected as candidate sites for low-level radioactive waste disposal facilities. He used factors derived from both the "facility siting" and "social movement" literatures to compare his cases. In the end, however, he failed to find support for any single set of static variables across the majority of his cases. Instead, drawing on work by McAdam et al. (2001), he stressed the critical importance of certain key dynamic "mechanisms"—in particular "brokerage" and "certification"—in the mobilization of opposition to these facilities.

In her dissertation research, Boudet (2010) studied community response to the proposed siting of liquefied natural gas (LNG) terminals in thirteen U.S. communities. Findings from these cases indicated that either a combination of high threat and high political opportunity or a significant endowment of resources is important for mobilization, suggesting the existence of multiple pathways to a similar mobilization outcome.

Finally, Gramling (1995), Gramling and Freudenburg (1996, 2006), and Freudenburg and Gramling (1993, 1994) have written extensively about the difference in attitudes and behavior toward offshore oil development in the United States. They argue that historical, biophysical, and social factors explain the different responses of these coastal communities and stress the need for "multiple-factor explanations, as opposed to single-factor explanations" of these types of phenomena (Gramling and Freudenburg, 1996:486).

NIMBY, Public Participation, and Facility Siting

Over the last few decades, a growing body of literature has tried to understand the determinants of opposition to locally unwanted land uses in developed countries. Like the social movements literature, this research reinforces the importance of threats (or risks) in mobilizing opponents. However, it also stresses the need for open communication and compensation for locally affected communities as methods for avoiding conflict.

Consistent with the emphasis on "exogenous shocks" in the social movement literature, NIMBY studies also point to the importance of beliefs about the threats (or risks) posed by a facility in mobilizing opposition (Boholm, 2004; Dear, 1992; Haller and Hadler, 2008; Hunter and Leyden, 1995; Lesbirel
and Shaw, 2005; Zeiss, 1998). For example, in a survey of almost 250 grassroots organizations involved in environmental health issues (not specifically facility siting), Freudenberg found that nearly half the groups were formed “because concerned citizens became alarmed or angry about a suspected health hazard” (1984:445). This work underlines the importance of perceived risks as a motivating factor for action.

Scholars have also examined proponent approaches to siting and how they can be improved to manage conflict. The decide-announce-defend (DAD) strategy, which relies on a technocratic, expert-based approach to determine an appropriate site that is then announced and defended in the public arena, has proven unsuccessful (Beierle and Cayford, 2001; Freudenburg, 2004; Lesbirel and Shaw, 2005). Project proponents have thus been encouraged to move to a more cooperative approach, where communities are consulted and provided with compensation for the impacts associated with construction and operation of the facility (Armour, 1991; Dixit et al., 2001; Freudenburg, 2004; Kunreuther et al., 1993a,b; Lesbirel and Shaw, 2005; O’Hare, 1977). This shift in the academic literature to emphasize early communication, consultation, and public participation in decision making as a way to avoid conflict in siting processes has been mirrored in regulation. Host country governments and financial institutions actively encourage project sponsors to consult the public, arguing that it “can lead to reduced financial risk (from delays, legal disputes, and negative publicity), direct cost savings, increased market share (through good public image), and enhanced social benefits to local communities” (Environment Division, 1998:A-3).

We certainly agree with the normative thrust of the works cited, but we are inclined to disagree with the implied empirical prediction. Unless the nature of the consultation is so thorough and proactive as to obviate the need for conflict in the first place, we see consultation as affording opposition groups another opportunity to protest. This is consistent with the general consensus among social movement scholars that open political systems are more prone to protest than are closed ones (Eisinger, 1973; McAdam, 1999). A real-life example of this phenomenon is offered by Espeland (1998). In her detailed case study of a successful effort to block construction of a large dam near Phoenix, Arizona, she saw the opposition of the small, historically powerless Yavapai tribe as especially critical to the success of the movement. She attributes the tribe’s decisive effect on the outcome to the legal standing granted them under the terms of the National Environmental Protection Act (NEPA). Consistent with political process theory, the institutional access that NEPA afforded the Yavapai granted them unprecedented leverage with which to press their claims.

Drawing on the insights from these literatures, we will structure the comparative analysis of our cases around the following five causal factors: threat, opportunity, resources, prior conflict, and compensation. Here, we simply note the broad categories of “causal conditions” to be employed in the study. Below, we detail our approach to measuring each of these factors.
THE STUDY: METHODOLOGICAL CONTRIBUTIONS AND PROCEDURES

Besides our desire to move outside the democratic West and focus on an increasingly common and consequential form of contention in the developing world, we undertook this research to explore methodological alternatives to traditional social movement scholarship. Our study departs from convention in two ways.

“At-Risk Populations” Rather than Social Movements

The traditional approach to studying social movements would seem to severely truncate the real phenomenon of interest. That is, scholars have tried to infer something about the dynamics of emergent mobilization from instances of successful mobilization. This carries with it all the standard risks associated with “selecting on the dependent variable.” It may be that successful movements are so wildly atypical of mobilization attempts generally that our understanding of emergent collective action is critically compromised by focusing only on them. Yet despite some awareness of the issue, movement scholars continue to perpetuate the problem by singling out developed movements for study.

The traditional preoccupation with successful movements as the phenomenon of interest owes as much to practical methodological considerations as conceptual blinders. Successful movements are easy to identify and generate lots of analyzable data. Figuring out how to study non or possible events is not easy. That is the practical virtue of focusing not on movements, but on communities targeted for infrastructure projects. In our case, studying variation in community response to pipeline projects allows us to shift the phenomenon of interest from successful social movements to “mobilization attempts” or, more accurately, “communities at risk for mobilization.”

Comparative Case Analysis

With this research we seek to transcend a second methodological convention in the study of social movements: the dominance of the case study method. Both the virtues and limitations of the case study are well known and fully appreciated. The ideal would be to blend the deeper knowledge one gains from a case study with the inferential power of large-\(N\) data sets. This promise has motivated Charles Ragin to develop and refine a comparative case analytic method that allows researchers to generalize their findings from a relatively limited number of cases. He outlined the first version of his method in his 1987 book, *The Comparative Method*. He followed with *Fuzzy-Set Social Science* in 2000 and *Redesigning Social Inquiry* in 2008. Whereas the initial
version required researchers to render all causal and outcome conditions in dichotomous terms, the “new and improved” fuzzy set alternative—known as fs/QCA in shorthand—allows researchers to define variables (or “conditions”) as continuous fuzzy set values ranging from 0 to 1 (e.g., .25, .40, .65, etc.).

These two innovations define this research as markedly different from the standard approaches to the study of social movements. Rather than studying a single social movement via the case study, we adopt a comparative case approach to explain differences in community opposition to large infrastructure projects. Add to this the choice of cases from all over the globe, and you have an approach to the study of contention that transcends many of the biases inherent in conventional social movement research.

**The Method: Fuzzy Set/Qualitative Comparative Analysis (fs/QCA)**

Ragin’s fuzzy set/qualitative comparative analysis (fs/QCA) provides a middle road between the rich detail of small-N case study work and the generalizations of large-N statistical analysis. Instead of trying to maximize variation in the independent and dependent variables, fs/QCA scores independent variables, or “causal conditions,” and dependent variables, or “outcome conditions,” in terms of membership in a set. In developing fs/QCA, Ragin built on previous work that combined methods for comparative case analysis with Boolean algebra, using mainly dichotomous data (Ragin, 1987). fs/QCA moves beyond simple dichotomous scoring, allowing for a more nuanced coding of relevant conditions.

A key benefit of using Ragin’s method is that it expressly considers how causes combine to create different pathways to similar outcomes. The fs/QCA method is uniquely suited to uncover the causal combinations that are associated with mobilization in infrastructure siting. This method, which combines both in-depth knowledge of a particular case with the ability to scale up to a larger number of cases than qualitative work typically allows, is well-matched to our research goals.

**Case Selection** Oil and/or gas pipelines provide an ideal sector for this research. Energy provision has gained critical importance in recent years with growing concerns about climate change and national security. Moreover, due to their large size and the visibility of the companies involved, energy projects tend to draw both local and international interest. However, unlike the construction of dams (Khagram, 2004) or nuclear power plants (Eckstein, 1997), which have been brought to a virtual standstill by public opposition, the construction of oil and/or gas pipelines continues at present. Thus, these projects tend to provoke different levels or degrees of community mobilization. In addition, several of our authors have experience working in the sector, affording us the “insider’s” knowledge so helpful in choosing cases and setting the
values of our causal and outcome conditions. Finally, the impact of such projects often spans multiple communities and is thus national, as opposed to local, in scale, thereby justifying the use of national-level data for some of our causal conditions.

Although no definitive list of pipeline projects in the world exists, Simdex maintains a “future pipeline projects worldwide guide.”\(^\text{10}\) We drew on this database as a starting point for our case selection. Several criteria were used to select pipeline projects for inclusion in the study.

1. All projects had to be located in developing countries to ensure our work would fill a gap in the relevant literatures, which have tended to focus on developed countries.
2. Projects selected had to include a range of funding mechanisms—private, Western commercial bank, export credit agency, multilateral, and/or World Bank\(^\text{11}\) involvement. Discussions with experts in the field of oil and gas development convinced us that the sources of funding could be a critical determinant of conflict.
3. Projects selected had to be relatively recent to ensure some data availability.

Based on these criteria, a total of 11 projects, spanning 16 countries, were selected. Each project/host country pair became a case in our analysis \((n = 16)\). Table I provides a list of our cases, as well as information on our selection criteria.

**Causal Conditions** Our causal conditions were selected based on both theoretical expectations and consultation with experts in the energy sector. We divide them into the five general categories that emerged from our review of the relevant literatures. The five categories are: threat, opportunity, resources, prior conflict, and compensation. We turn now to a discussion of each of our causal conditions, grouped according to the general theoretical category to which they belong.

1. **Threat**—Social movement scholars and NIMBY scholars have long regarded perceived threats (and opportunities) as significant catalysts of emergent collective action. For the purpose of this study, we selected three measures of threat associated with pipeline projects: project size, potential environmental impact, and potential impact on local indigenous peoples.
   a. *The set of large projects*—In prior research, the overall size of a project has been consistently linked to public opposition (Dear, 1992; Haggett, 2008). The project’s size, measured in terms of the length of the pipeline (in km) in the host country, provided a proxy for the

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\(^{10}\) See http://www.simdex.com/future_pipeline_projects/index.htm for more information.

\(^{11}\) World Bank involvement includes funding from any of the members of the World Bank Group or its affiliates: International Bank for Reconstruction and Development (IBRD), International Development Assistance (IDA), International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA).
general threat associated with its construction. If the project falls in the set of larger projects, conflict is anticipated.

b. The set of projects with a significant environmental impact—In formulating our second threat condition, we rely less on theory and more on the insights of industry experts. In their view, among the conditions that are most likely to trigger protest are the perceived environmental threats posed by the project. This set was created based on available information regarding the project’s potential impact on five environmentally sensitive issues: river crossings, endangered species, park areas, previously inaccessible areas, and whether the pipeline included an offshore portion. If the project falls in the set of projects with a significant environmental impact, conflict is anticipated.

c. The set of projects that impact indigenous peoples—Industry experts also see impacts to local indigenous groups as another potent trigger of opposition to pipeline projects. Western nongovernmental organizations (NGOs), local indigenous groups, and international financial institutions have demonstrated particular concern for the potential impact of infrastructure development on indigenous peoples. Accordingly, we include a dichotomous condition to capture whether indigenous communities had been identified along the

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### Table I. List of Cases

<table>
<thead>
<tr>
<th>Pipeline Project</th>
<th>Funding Mechanism</th>
<th>Year of Funding Commitment</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baku-Tblisi-Ceyhan (BTC)</td>
<td>Private</td>
<td>1999</td>
<td>Azerbaijan, Georgia, Turkey</td>
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<td></td>
<td>Commercial bank</td>
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<td>Export credit agency</td>
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<td>Multilateral</td>
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<tr>
<td></td>
<td>World Bank</td>
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<tr>
<td>Camisea</td>
<td>Private</td>
<td>2000</td>
<td>Peru</td>
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<tr>
<td></td>
<td>Multilateral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chad-Cameroon</td>
<td>Private</td>
<td>2000</td>
<td>Cameroon, Chad</td>
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<tr>
<td></td>
<td>Multilateral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haoud El Hamra to Arzew Oil—OZ2</td>
<td>Private</td>
<td>2004</td>
<td>Algeria</td>
</tr>
<tr>
<td>Khartoum Refinery to Port Sudan</td>
<td>Export credit agency</td>
<td></td>
<td>Sudan</td>
</tr>
<tr>
<td>Manmad to Indore</td>
<td>Private</td>
<td>2001</td>
<td>India, Malawi, Mozambique</td>
</tr>
<tr>
<td>Nacala to Liwonde</td>
<td>Private</td>
<td>Never funded (discussed 2003–2006)</td>
<td></td>
</tr>
<tr>
<td>Patagonia</td>
<td>Private</td>
<td>2004</td>
<td>Argentina, Russia</td>
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<tr>
<td>Sakhalin-II</td>
<td>Private</td>
<td>1994</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Export credit agency</td>
<td></td>
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<td></td>
<td>Multilateral</td>
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<td></td>
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<tr>
<td>West African Gas</td>
<td>Private</td>
<td>2003</td>
<td>Ghana, Nigeria</td>
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<tr>
<td>West-East China</td>
<td>Private</td>
<td>2000</td>
<td>China</td>
</tr>
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</table>
pipeline route. We expect the presence of indigenous groups along the route to be associated with conflict.

2. Political Opportunities—Perhaps no causal factor has received more theoretical attention from movement scholars than political opportunities. In terms of pipeline projects, we see three important sources of political opportunities encouraging opposition: Western funding, stakeholder consultation, and the level of democracy in the host country.

a. The set of projects with funding from Western sources—Western sources of funding include commercial banks, export credit agencies, and multilateral lenders like the World Bank. The involvement of such institutions in funding projects often leads to another layer of regulation and oversight, as well as another venue for impacted communities to express their concerns, beyond the host country government and sponsoring companies. In addition to the formal procedural mechanisms built into Western funding practices, the presence of these organizations may attract NGOs (and possibly local opposition). By representing both the evils of neoliberalism and a certain receptivity or vulnerability to challenge, the involvement of Western funders—especially the World Bank—may encourage opposition to projects. Thus, if a project falls in the set of those funded by Western sources, we anticipate conflict.

b. The set of projects with little public consultation—As noted in our literature review, the issue of consultation is one that supports opposite predictions by different sets of scholars. Those working in the field of facility siting have argued that consultation reduces conflict by harmonizing the interests of multiple stakeholders at the outset of a project. In contrast, social movement scholars tend to see consultation as a form of political access, granting an incipient opposition the opportunity to mobilize. Insofar as we incline toward the latter point of view, we expect to see projects that feature public consultation as more prone to conflict, but allowed for either result in our analysis.

c. The set of projects in a democratic host country—This was constructed based on the Polity IV data set (Marshall and Jaggers, 2009), with higher Polity IV scores corresponding to higher fuzzy set scores. Given the longstanding stress in the social movement literature on the democratic facilitation of protest, we expect higher scores on this condition to be associated with conflict.

3. Resources—Our third factor again reflects a strong emphasis among social movement scholars. To test the causal importance attributed to resources by proponents of the resource mobilization perspective, we include two specific measures in our analysis: the level of development in the host country and the number of connections to NGOs. We see the former as crudely measuring the “internal” capacity of
the population to mobilize on its own behalf and the latter as reflecting the “external” resources available to potential opposition groups.

a. The set of projects in a relatively developed host country—This was constructed using the U.N. Development Program’s Human Development Index (HDI) (Human Development Report Office, 2009). This index assigns scores ranging from 0 to 1 to individual countries based on measures of life expectancy, literacy, education, and gross domestic production per capita. A country’s score on the index serves as a proxy for the internal resources available for mobilization in a country. Cases based in more developed countries are expected to experience more opposition.

b. The set of projects in a host country with many memberships in NGOs—The World System Integration data set (Union of International Associations, various years) was used to construct the set of projects in host countries with a large number of memberships in NGOs. Multiple memberships in NGOs indicate a greater connection to organizations that often oppose oil and gas projects and the possibility of additional, external resources for mobilization flowing into a country. In addition, following Meyer and his colleagues (Ramirez and Boli, 1987; Boli and Thomas, 1997; Meyer et al., 1997; Meyer and Jepperson, 2000), membership in many NGOs is likely to signal support for the kinds of normative policies (e.g., women’s rights, minority rights, environmental protection) that often encourage protest activity. Thus, we expect membership in this set to be associated with conflict.

4. Compensation—In infrastructure siting, the adverse effects of a proposed infrastructure facility are generally concentrated on a small, easily mobilized community, while the benefits accrue to the wider public. Consequently, scholars have argued that special compensation arrangements for the adversely affected community are necessary to even out this mismatched distribution of costs and benefits (Morell and Singer, 1980; O’Hare, 1977; O’Hare et al., 1983). Although these scholars mainly refer to compensation of an affected community, such information, particularly for private-sector projects, is difficult to obtain. As a result, we were forced to rely on two national-level measures of compensation from an oil and/or gas pipeline project: host country equity and oil and/or gas provision to the host country.

a. The set of projects with an insignificant role for the host country as an equity partner—Pipeline projects are typically owned by a consortium of equity partners. Projects that fail to offer the host county significant equity participation face heightened risks of local collective action for two reasons. First, local communities that face prospects of social and environmental disruption in the
wake of a major project development may be angered by the fact that all the financial benefits accrue to foreign investors. Second, lacking any real stake in the project, state officials are not likely to play the role of peacemaker should opposition to the project develop.

b. *The set of projects with little provision of oil and/or gas to the host country*—Another way that a host country can be compensated for the extraction of its resources is in-kind, that is, some or all of the oil and gas remains in country, as opposed to being transported elsewhere. For this reason, we included this condition as another measure of compensation.

5. *Previous Conflict*—Finally, we wanted to include a measure of prior movement activity in the host country. We created the set of projects in host countries with high levels of previous conflict from the Cross-National Time Series Data Archive’s Weighted Conflict Index (Banks and Databanks International, 2009). The index weights numbers of assassinations, strikes, guerrilla warfare, government crises, purges, riots, revolutions, and antigovernment demonstrations in a given country in a given year. We interpret the condition as a simple reflection of the level of prior contention in the country. Where contention has been high in the past, it makes sense to expect conflict in the present.

**Summary of Causal Conditions** Table II summarizes all of our causal conditions, their fuzzy set scoring, and whether the condition’s presence or absence is expected to be an important determinant of conflict. Some causal conditions were constructed from larger data sets and then calibrated, as specified by Ragin (2008b). This calibration allows the researcher to determine which values in the larger data set correspond to his or her definition of the threshold for full membership (.95) and the threshold for full nonmembership (.05), as well as the value associated with “maximum ambiguity” as to whether it is in or out of the set (.5). Once these values are determined, Ragin’s calibration method assigns a fuzzy set score to the rest of the values in the larger data set based on where they fall in relation to the selected values. This calibration method works well when larger data sets are available. However, for some of our causal conditions and both our outcome conditions, such data were not available. As a result, we created our own fuzzy set scoring scheme for these conditions, based on our knowledge of the cases.

**Outcome Conditions** The outcome condition of interest is the level of opposition in each case. In measuring opposition, we differentiate: *legal (institutionalized) conflict*, or that occurring within the structures provided by the host country, project sponsor, or lender for voicing concerns or opposition to a project, and *political (contentious) conflict*, or that occurring outside these
Table II. Causal Conditions

<table>
<thead>
<tr>
<th>Causal Condition</th>
<th>Fuzzy Set Scoring</th>
<th>Presence/Absence Important for Conflict?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Threats</strong></td>
<td></td>
<td><strong>Presence</strong></td>
</tr>
<tr>
<td>Set of large projects (SIZE)</td>
<td>The length of the pipeline (in km) to be constructed in the host country was calibrated across all cases.</td>
<td>Presence</td>
</tr>
<tr>
<td>Set of projects with a significant environmental impact (ENVFOOT)</td>
<td>0 Pipeline largely follows existing pipeline route.</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>0.4 Pipeline only impacts 2 of 5 criteria.</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>0.6 Pipeline impacts 3 or 4 of our 5 listed criteria.</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>1 Pipeline impacts all 5 listed criteria.</td>
<td>Presence</td>
</tr>
<tr>
<td>Set of projects that impact indigenous peoples (INDPEOP)</td>
<td>0 No indigenous peoples have been identified along the pipeline route.</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>1 Indigenous peoples have been identified along the pipeline route.</td>
<td>Presence</td>
</tr>
<tr>
<td><strong>Political Opportunities</strong></td>
<td></td>
<td><strong>Presence</strong></td>
</tr>
<tr>
<td>Set of projects with funding from Western sources (WESTFUND)</td>
<td>0 None</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>0.25 Western bilateral (export credit agency) or commercial bank involvement only, in any capacity</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>0.75 Regional development bank (with or without Western bilateral), in any capacity</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>1 World Bank involvement</td>
<td>Presence</td>
</tr>
<tr>
<td>Set of projects with little public consultation (CONSULT)</td>
<td>0 Evidence of public consultation</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>1 No evidence of public consultation</td>
<td>Presence</td>
</tr>
<tr>
<td>Set of projects located in democratic host country (DEM)</td>
<td>Polity IV data were calibrated across all available countries in the data set by the average democracy score for the years 1996–2000; the fuzzy set score for an individual project is based on its host country’s average democracy score in the data set over the three years prior to the year of the project’s financial closure.</td>
<td>Presence</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td></td>
<td><strong>Presence</strong></td>
</tr>
<tr>
<td>Set of projects in relatively developed host country (HDI)</td>
<td>The fuzzy set score for an individual project is based on its host country’s closest Human Development Index (HDI) score available to the year of the project’s financial closure; the fuzzy set was then recalibrated for the countries in our data set.</td>
<td>Presence</td>
</tr>
<tr>
<td>Set of projects in host country with many memberships in nongovernmental organizations (NGO)</td>
<td>World System Integration data were calibrated across all available countries in the data set for the year 1998; the fuzzy set score for an individual project is based on its host country’s score in the data set in the year of the project’s financial closure.</td>
<td>Presence</td>
</tr>
<tr>
<td>Causal Condition</td>
<td>Fuzzy Set Scoring</td>
<td>Presence/Absence Important for Conflict?</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Compensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set of projects with an</td>
<td></td>
<td></td>
</tr>
<tr>
<td>insignificant role for the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>host country as an equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>partner(^c) (HCEQUITY)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Equity &gt; 50% (i.e., controlling share)</td>
<td>Presence</td>
</tr>
<tr>
<td>0.1</td>
<td>Equity = 50%</td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td>20% ≤ equity &lt; 50%</td>
<td></td>
</tr>
<tr>
<td>0.8</td>
<td>5% &lt; equity &lt; 20%</td>
<td></td>
</tr>
<tr>
<td>0.9</td>
<td>0% &lt; equity ≤ 5% (i.e., token)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>No equity.</td>
<td></td>
</tr>
<tr>
<td>Set of projects with little</td>
<td></td>
<td></td>
</tr>
<tr>
<td>provision of oil and gas in the host</td>
<td></td>
<td></td>
</tr>
<tr>
<td>country (OGPROV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Pipeline has been constructed to provide 100% of oil/gas transported to host</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>country.</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>More than 50% of oil/gas transported through pipeline earmarked for use in host</td>
<td></td>
</tr>
<tr>
<td></td>
<td>country.</td>
<td></td>
</tr>
<tr>
<td>0.9</td>
<td>Promise of some small amount of oil/gas transported through pipeline to be sold</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in host country depending on market.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>None of the oil/gas transported through pipeline will be sold in host country.</td>
<td></td>
</tr>
<tr>
<td>Previous conflict</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set of projects in host</td>
<td></td>
<td></td>
</tr>
<tr>
<td>country with high levels of previous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>conflict (WCI)</td>
<td>The Weighted Conflict Index was calibrated across all available countries in the</td>
<td>Presence</td>
</tr>
<tr>
<td></td>
<td>data set for the average score across the years 1996–2000; the fuzzy set score</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for an individual project is based on an average score of its host country in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>data set over the three years prior to the year of the project’s financial closure.</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Criteria include river crossings, endangered species, park areas, previously inaccessible areas, and offshore portion. We realize that whether the pipeline is associated with a larger project that includes oil and gas extraction is also important for potential environmental impact. However, almost all cases that included an extractive component also score high on our environmental impact measure. Exceptions are Azerbaijan and Chad. The Caspian Sea near Azerbaijan had already experienced a significant amount of oil and gas development prior to the BTC project, while Chad scored 0.4 in terms of environmental impact, which places it almost in the set of cases with significant environmental impact.

\(^b\)As defined by the World Bank.

\(^c\)Equity stake is included even if it is covered by a loan.
RESULTS

We present our results for the two outcome conditions: political and legal conflict. For each outcome, fs/QCA provides information about which causal conditions (or combinations of causal conditions) are necessary or sufficient to produce the outcome of interest. Necessary causal conditions are those that must be present but alone are not sufficient to produce the outcome of interest. In other words, fuzzy set scores of a necessary causal condition (X) are consistently greater than or equal to fuzzy set scores of the outcome condition.

Table III. Outcome Conditions

<table>
<thead>
<tr>
<th>Outcome Condition</th>
<th>Fuzzy Set Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects that bring about political conflict (POLCONF)</td>
<td>0 No evidence</td>
</tr>
<tr>
<td></td>
<td>0.2 Evidence of opposition groups</td>
</tr>
<tr>
<td></td>
<td>0.4 Few peaceful strikes/rallies/demonstrations (&lt;5) or damage to project as a result of a separate conflict</td>
</tr>
<tr>
<td></td>
<td>0.6 Moderate number of peaceful strikes/rallies/demonstrations (5–14) and/or a few arrests, injuries (&lt;5)</td>
</tr>
<tr>
<td></td>
<td>0.8 Moderate number of strikes/rallies/demonstrations (5–14) with more arrests, injuries (&gt;5), and damage to project or many peaceful strikes/rallies/demonstrations (&gt;15) with significant attendance</td>
</tr>
<tr>
<td></td>
<td>1 Deaths as a result of activities</td>
</tr>
<tr>
<td>Projects that bring about legal conflict (LEGCONF)</td>
<td>0 No evidence</td>
</tr>
<tr>
<td></td>
<td>0.25 Petitions, labor disagreements (not involving strikes)</td>
</tr>
<tr>
<td></td>
<td>0.75 Local permit denied, lender considers project but decides not to invest, official grievances filed with lenders or host country government that launches an official investigation</td>
</tr>
<tr>
<td></td>
<td>1 National permit denied, lender pulls out of investment after commitment, injunction, lawsuit (national or international)</td>
</tr>
</tbody>
</table>

extant structures. Table III provides information about the fuzzy set scoring of each of these outcome conditions.}\(^\text{12}\)

\(^{12}\) Data on each case were collected using information available from a variety of sources, including academic literature, official project websites, opposition websites, and newspaper accounts. In addition to this Stanford-based data collection, a legal librarian from Akin Gump Strauss Hauer & Feld LLP also completed a desktop study of all cases, helping us differentiate levels of legal and political conflict. Information was limited for some cases; however, cost considerations prohibited travel to each project location to collect additional data. We also felt that library and archival research was most appropriate at this exploratory stage of the project. In the future, we hope to conduct several in-depth field studies on location as an extension of this first phase of the study. To check the validity of our findings from the desktop study and to further delineate levels of conflict, we also electronically surveyed individuals in lender organizations and nongovernmental organizations (NGOs) who were familiar with each project. Most of the survey questions were related to outcome conditions; however, respondents from the lenders also reviewed a brief summary of our findings for the causal conditions. In all, 17 surveys (nine with lenders; eight with NGOs) were conducted, covering 9 of our 16 cases.
(Y) for most cases, or \( X_i \geq Y_i \).\(^{13}\) Sufficient causal conditions (or combinations of causal conditions) are those that are sufficient but not necessary (because of multiple causal pathways) to produce the outcome of interest. In other words, fuzzy set scores of a sufficient causal condition (X) are consistently less than or equal to fuzzy set scores of the outcome condition (Y) for most cases, or \( X_i \leq Y_i \).

In addition, fs/QCA provides information about the consistency and coverage of both individual causal recipes and the combination of causal recipes produced in an analysis. Consistency, the more important calculation, measures the degree to which one condition is a subset of the other. Consistency scores of greater than 0.8 for sufficient conditions (or causal combinations) and 0.9 for necessary conditions are commonly used as guidelines by scholars of fs/QCA to establish the relevant set-theoretic relationship between the causal and outcome conditions (Ragin, 2008c). Once this relationship is established, coverage becomes important. Coverage assesses relevance. For example, if X is determined to be a consistent subset of Y (or a sufficient condition of Y), then its coverage score reveals how important the combination of conditions represented in X is in accounting for Y.

**Political Conflict\(^{14}\)**

Our analysis showed that the following conditions were generally necessary for political conflict in oil and gas pipeline projects (consistency scores for these supersets are provided in parentheses):

- Little provision of oil and/or gas to the host country (0.97),
- An insignificant role for the host country as an equity partner (0.90), and
- A significant amount of public consultation (0.93).

Thus, each of these conditions is relevant to the sufficiency recipes provided below and is generally shared by instances of the outcome. Both the level of oil and/or gas provision to the host country and the role of the host country as an equity partner are compensation conditions and occur in the anticipated

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\(^{13}\) This relationship implies that the causal condition is a superset of the outcome. Similar to statistical analysis, it is important to remember that this mathematical relationship does not imply necessity without concrete causal evidence from our individual, real-world cases. Absent this concrete linkage, such a condition could simply be an attribute that is shared by instances of the outcome, and may not be causal. The condition could be constitutive—essential in some definitional way to the outcome—or merely descriptive—something that the cases displaying the outcome just happen to share.

\(^{14}\) We find an interesting association between our two outcome conditions. None of our cases have political conflict without legal conflict. This finding could indicate either that opposition groups tend toward legal avenues first and resort to political avenues only when legal channels fail or are not available or that political conflict motivates later legal efforts to adjudicate the conflict. Additional case study work would be required to tease out the mechanisms behind this relationship.
direction, that is, little compensation is associated with conflict. Consultation, an opportunity condition, acts as expected as a precursor to conflict.

Our analysis finds four different causal pathways sufficient for political conflict. Figure 1 provides a mathematical and graphical representation of these causal recipes. The consistency of this set of sufficient causal recipes in producing political conflict is 0.88—meaning that cases with these causal configurations are 88% consistent in exhibiting political conflict. The coverage is 0.65—meaning that 65% of the sum of the membership scores in the outcome can be explained using these causal recipes. All four pathways required a combination of some environmental impact and Western funding. With these conditions met, the paths split by projects located in more or less developed and democratic host countries. Projects in more developed and more democratic host countries, such as Georgia and Turkey, experienced political conflict, despite low levels of prior conflict. Or, as in Russia and Peru, these projects in more developed and more democratic host countries were moderately large in size and impacted indigenous peoples. For projects located in less developed and less democratic host countries, political conflict was associated with either little connection to the NGO community, as in Chad, or a moderately large project with impact on indigenous peoples, as in Cameroon.

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**Fig. 1. Causal recipes for political conflict.**

In this and subsequent fs/QCA results, the notation is as follows: shorthand representations of the causal and outcome conditions correspond to those provided in Tables II and III. “LOW_” or “HIGH_” in front of a causal condition corresponds to a recoding of the causal condition for a sensitivity analysis. For example, LOW_ENVFOOT is the set of cases with a low environmental impact when compared with our original conception of the set of projects with environmental impact (ENVFOOT). The “~” symbol is used to indicate negation or “not.” Multiplication (*) signals combined conditions (set intersection); addition (+) signals alternate combinations of conditions (set union).
The project in Azerbaijan does not fit into any of these four causal pathways, yet it experienced political conflict. There are several possible explanations as to why Azerbaijan does not fit into one of the recipes but still experienced conflict. First, according to our informants, the conflict in Azerbaijan was primarily local and related to construction impacts and worker relations. In most of our other cases, political conflict was more global in scope and aided by international NGOs. Perhaps our causal conditions are more related to this latter type of political conflict than that which occurred in Azerbaijan. There is another possibility. The pipeline in Azerbaijan was part of a larger BTC project that drew lots of critical attention, especially in Europe. It may well be that the causal dynamics of this case reflect the broader project and not the specific segment in Azerbaijan.

Legal Conflict

Our analysis showed that the following conditions were usually necessary for legal conflict in oil and gas pipeline projects (consistency scores for these supersets are provided in parentheses):

- Little provision of oil and/or gas to the host country (0.90),
- Western funding (0.88), and
- A significant amount of public consultation (1.00).

Thus, each of these conditions is relevant to the sufficiency recipe provided below and is generally shared by instances of the outcome. Like political conflict, we find a combination of compensation and political opportunity conditions as almost always necessary for legal conflict in oil and gas pipeline projects.

<table>
<thead>
<tr>
<th>Sufficient causal recipes (mathematically):</th>
<th>~LOW_ENVFOOT*HIGH_HCEQUITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient causal recipes (graphically):</td>
<td></td>
</tr>
<tr>
<td>Some environmental impact</td>
<td>Provision of almost no equity to host country</td>
</tr>
</tbody>
</table>

Peru, Russia, Cameroon, Turkey, Chad, Georgia

Solution coverage: 0.58  
Solution consistency: 0.92  
Azerbaijan, Nigeria and China not explained by this recipe.

Fig. 2. Causal recipes for legal conflict.
Our analysis finds one causal pathway sufficient for legal conflict: the combination of some environmental impact and the provision of almost no equity to the host country. Thus, the sufficiency recipe for legal conflict is a combination of threat and compensation conditions. Figure 2 provides a mathematical representation of this causal recipe. The consistency of this sufficient causal recipe in producing political conflict is 0.92—meaning that cases with this causal configuration are 92% consistent in exhibiting legal conflict. Its coverage is 0.58—meaning that 58% of the sum of the membership scores in the outcome can be explained by this causal recipe. Quintessential examples of this recipe are Peru (Camisea) and Russia (Sakhalin-II). Both projects scored high on all three necessary conditions, generated a moderate level of environmental impact, and, at least initially, provided no equity to the host country.

The projects in Azerbaijan, Nigeria, and China are not well explained by this causal recipe. As discussed above, Azerbaijan was part of the larger BTC pipeline, which drew a lot of attention from Europe. Although it received a high ranking in terms of legal conflict on our scale because of the activities of some international NGOs and activists from Georgia, no formal complaints were submitted from Azerbaijan as part of the International Finance Corporation’s Compliance Advisor Ombudsman Office. Moreover, the BTC project in Azerbaijan was quite similar to the West African Gas Pipeline Project in Nigeria. Both projects were high-profile projects, funded by the World Bank, and spanned multiple countries. In addition, when compared with other projects that generated legal conflict, neither the pipeline in Azerbaijan nor the one in Nigeria had a particularly significant environmental impact. In fact, the West African Gas Pipeline was touted for its environmental benefits because it would limit the flaring of natural gas that had been associated with oil production in Nigeria. In addition, both offered some compensation to the host country in the form of a 25% equity stake to the state-owned oil company.

Similarly, the West-East China Pipeline was fully owned and developed by a Chinese company to produce oil and gas that would be used within China. According to newspaper reports, legal conflict in the West-East China Pipeline was driven mainly by disagreements on the rate of return required for investment by foreign companies, as well as pressure by Tibetan activists at the shareholder meetings of potential foreign investors. This legal conflict is substantially different in nature from that experienced by other projects, where legal conflict was more directly related to project impacts on the environment and the surrounding population. China and Nigeria are also the only two cases in our study that experienced legal conflict without political conflict. The fact that a host country company had at least some stake in these projects may have increased their legitimacy in the eyes of both the locally affected population and international NGOs. Thus, opponents may have felt that complaints against the project could be resolved within existing institutions, as opposed to outside of them.
DISCUSSION AND CONCLUSION

In closing, we want to highlight what we see as the four most interesting theoretical implications of our findings. The first is really a nonfinding. That is, we were surprised that the general level of prior social movement activity in the country contributed little to the causal recipes that explained most cases. Perhaps the reactive form of opposition we are studying is different from the generally proactive types of collective action that comprise the Cross-National Time Series Data Archive’s Weighted Conflict Index data set. This finding is consistent with the conclusions of Walsh et al. (1997). They argue that “technology movements”—movements characterized by the “quick response” of “local residents” to a “perceived environmental threat”—are fundamentally different from “equity movements”—movements characterized by “gradual mobilization around long-standing grievances among members of a culturally identifiable collectivity.”

We were also surprised by the relatively marginal contribution made by our two resource measures to the various causal recipes. In terms of external resources, ties to NGOs did figure in the mix of factors that explained particular cases (e.g., Chad), but not in the hypothesized direction. In general, this causal condition was absent from most of our recipes. It could be that our measure of NGO presence is too broad to pick up any role of external allies in these cases or that these alliances form as a reactive response to a specific proposal but, for now, we are left to conclude that other factors matter more to the mobilization of contention around infrastructure projects. In terms of internal resources, the level of the host country’s development only figures marginally into our recipes for political conflict. Pending further research, these findings prompt us to conclude that for this type of reactive mobilization, determined individuals and groups seem to be able to find a way to express opposition to oil and gas pipeline projects without significant external or internal resources.

Third, our results imply that project-specific characteristics (e.g., project size, impact, funding structure, compensation mechanisms) are more important in determining conflict than contextual factors specific to the host country (e.g., development, democracy, NGO connections). It is possible that our contextual conditions, measured as they are at the national level, are simply too broad to capture the localized nature of these conflicts. If, however, the lack of contextual effects is real, it would be good news for project sponsors and proponents, suggesting that the responses to such proposals are not context specific but result from more tractable aspects of the project.

The strongest and most theoretically compelling set of findings, however, involves our threat and opportunity conditions. Threat figures into our account of conflict mainly as a sufficient condition, that is, it serves as the spark that ignites conflict. Thus, at a very general level, all the conflicts we observe can be seen as responses to some perceived threat posed by the project. But what can we say about the causal importance of the different threat conditions? Per-
haps reflecting the contemporary global salience of environmental and human rights issues, one or more of our threat conditions appeared in most of our causal recipes. It is also worth noting that the objective level of threat associated with these conditions did not have to be particularly high to figure in the recipes.

But as central as threat is to the analysis, we are struck nonetheless by just how much the expression of this shared sense of threat is mediated by opportunity. In essence, no matter what the level of threat, it is difficult for opponents to mobilize if not given an opportunity to do so. Indeed, “Western funding” and “consultation” figure more prominently in the causal recipes than any other causal conditions in the study. Consultation emerged as a necessary condition in both recipes for conflict, while Western funding achieved this same status for legal conflict. A point we made above regarding the especially prominent role of consultation in our results bears repeating. Although the facility siting literature embraces public consultation as a way to reduce or eliminate conflict, our results support a very different view of the phenomenon. Whatever its normative virtues, in the real world, consultation grants opponents entrée to the project, thereby encouraging mobilization. Indeed, one could argue that the mediating factor of opportunity is missing in the multitude of projects now being built in Africa by Chinese contractors. These deals, generally made between heads of authoritarian states and with no Western funding or provision for consultation, effectively foreclose any meaningful opportunity for local groups or Western NGOs to mobilize.

We close with one final observation regarding threat and opportunity. Social movement scholars have tended to represent threat and opportunity as “either/or” features of contention, as if movements were catalyzed by one or the other. Theoretically, we have long been skeptical of this view (McAdam, 1996), but here we are afforded empirical support for the skepticism. We are struck, instead, by just how consistently threat and opportunity appear to work jointly to shape opposition to these projects. Perceived threats may be sufficient for opposition to arise, but it is the opportunities afforded opponents by consultation and/or Western funding that appear to be necessary for high levels of conflict to eventuate.

Finally, we offer two methodological notes, the first programmatic, the second cautionary. The programmatic note is straightforward. We undertook this research in an exploratory fashion. While persuaded in the abstract by the argument underlying Ragin’s comparative case method, we were novices at the technique and somewhat skeptical about the open-ended nature of the process by which the researcher conceives and assigns values to the fuzzy set conditions. We are novices no more and convinced that the approach does, indeed, offer researchers a valuable alternative to the well-known limits of both the case study and large-N analysis.

That brings us to the caution. For all the virtues of the comparative case approach—virtues that we hope our results have served to underscore—the
limits should be apparent as well. We note only one. It is incompatible with calls by scholars of contention (Campbell, 2005; Hedstrom and Swedberg, 1998; Mayntz, 2004; McAdam et al. 2001; Tilly, 2001) for more attention to the dynamic mechanisms that actually account for the causal force of static variables. As deployed here, the comparative case method leaves the actual mechanisms of contention unexplored. We cannot, for instance, say what processes actually account for the apparently strong relationship between public consultation and conflict. Did project opponents turn to conflict only after becoming frustrated with consultative processes? Or were consultative processes organized in anticipation of subsequent conflict? We cannot say, any more than we can tell, from our results, exactly how threat and opportunity appear to work in combination to shape opposition to pipeline projects. For that one would need to invest in other methods, ones more attuned to the actual mechanisms of struggle (McAdam et al., 2008).

REFERENCES


