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Building institutions at the micro-level: Results from a field experiment in property dispute and conflict resolution¹

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Abstract: How to promote local order and property rights under weak rule of law? States commonly use education campaigns to influence citizen behavior and, ultimately, change generalized practices and norms (or informal institutions). But can education alone influence behavior, let alone “institutions”? In Liberia, property disputes are endemic, but access to formal legal institutions is scant. An intervention trained residents of 68 towns in mediation and advocated informal resolution practices and forums. We compare them to 179 randomized control towns a year later. We see little short-term impact on dispute levels or ferocity, but observe dramatically higher land dispute resolution and satisfaction. Spillovers within towns indicate generalized change - perhaps an early indication of institutionalization. Qualitative work suggests the intervention imparted superior mediation skills, enhanced the legitimacy of informal practices, and deterred defection to competing forums. We argue education can shift practices and norms by helping citizens coordinate on procedures and institutions.

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How do societies develop the institutions that preserve order, protect property, and enable complex contracts and social organization? What can states do to speed their development? Social scientists pay the most attention to national formal institutions. This approach, however, tends to overlook the myriad local, informal practices and norms that govern everyday behavior, especially disputes. Effective conflict resolution is essential to order and development. Every local business deal, land boundary, or loan offers a possible conflict. When local dispute institutions function well, they prevent and resolve conflict. Not only do people value resolution for its own sake but, in the long run, strong local institutions can decrease violence by helping parties reach bargains (Fearon 1995). Effective institutions should also increase the security of property and contracts, increasing incentives to invest and grow (North 1990; Besley and Ghatak 2009).

In poor and weak nations, formal legal institutions are often inaccessible, expensive, weak or even predatory. Improving them will take decades. In the meantime, people mostly turn to local, informal institutions to resolve disputes. Informality, however, has its challenges. There are usually many authorities and forums, meaning that disputants can shop forums for the answer they prefer. With no central coordination or enforcement, conflicts get prolonged rather than resolved. In societies with ethnic, religious, or economic cleavages, this makes for a volatile mix. What begins as a boundary dispute between two farmers may escalate into violent reprisals, or an isolated theft may lead to a violent feud between ethnic groups. While impacts are typically local, they can polarize national politics, spread violence to other towns, or even escalate into war.¹

¹ Local inter-ethnic and inter-religious riots commonly polarize national politics and spread to other communities (Horowitz 2003). Autesserre (2010) uses the example of the Democratic Republic of the Congo to show how local-level conflict aggregates into national instability.

Liberia offers an instructive example. Like many developing nations, the justice system is inaccessible, inefficient, expensive, and corrupt (Isser, Lubkemann et al. 2009). Property disputes are endemic, especially over land. Many land disputes in Liberia are linked to the recent civil war, but land disputes are endemic across Africa, regardless of conflict history (Onoma 2010; Udry 2011). Indeed, the difficulties in Liberia are common: There are competing processes for granting property rights and resolving disputes, and parties shop authorities for the answer that favors them (Unruh 2009). As we will see, half of property disputes escalate into threats or violence, especially when they cross cleavages. Some incidents have national consequences. In 2008, a dispute over farmland between two politicians erupted into widespread violence when gunmen killed 19 people and 21 others went missing (Amnesty International 2009). Such incidents are not limited to property disputes; in 2010 the murder of a girl in one of our study villages escalated into countywide ethnic riots and national political strain.

States and international organizations devote immense energy and resources to improving mechanisms for conflict resolution. Some interventions try to strengthen the formal justice system by reforming statutory law, the courts, and police. Others target informal institutions—a mix of traditional, customary, religious, and civil society practices. Some of these interventions seek to change what we call “behaviors”—the skills, beliefs and practices of actors involved in informal dispute resolution. An information campaign, for instance, might advise the populace where to bring disputes or teach new skills to community leaders. Other interventions aim higher, to change local “institutions”—a term we use to refer not just to systems and organizations (like constitutional constraints or courts) but to include the general norms, practices and rules followed by a community. This is the definition of institutions adopted by North (1994) or Bardhan (2004), who distinguish organizations from institutions, and argue that informal norms of behav-

ior and social structures are essential to the latter: “institutions are the rules of the game,” argues North, “and organizations are the players” (1994, 4). In our example, a sufficiently intensive information campaign could routinize new practices among community members (even those not directly reached by the intervention), shift norms of what forums are legitimate, and induce communities to sanction those who defect from these practices and forums.

Education campaigns are common peacebuilding and rule of law interventions. Often state-sponsored but foreign aid-funded, they are a staple intervention in post-conflict societies and emerging democracies. They train people to manage their own disputes informally rather than through formal institutions. They teach skills that help parties reach self-enforcing mediated settlements that all parties to the dispute find fair (Mnookin 1998; Baxter and Ikobwa 2005). They encourage populations to coordinate on particular practices or forums, and discourage defection to other forums. Most aspire for these practices and norms to become widespread and routine.

Is this realistic? Can simple education campaigns change conflict resolution practices, especially over high-stakes issues like land rights? With no change in actual incentives or constraints, we ought to approach these interventions with some skepticism. A growing body of experimental evidence, however, suggests that education and information can change individual short-term political behavior. In Rwanda, radio programs influenced strategies for conflict resolution and deliberation (Paluck 2009; Paluck and Green 2009). A number of experimental information campaigns around African elections have shown it is possible to change turnout and even violence levels, even when these campaigns are brief and non-intensive (Collier and Vicente 2011; Wantchekon and Vermeersch 2011). Studies of civic education programs also find durable effects on knowledge and (in some cases) civic behavior, including violence (Finkel and Smith 2011; Finkel, Horowitz et al. 2012; Finkel and Rojo-Mendoza 2012).

Little of this evidence, however, examines sustained behavior change or institutional change. North argues “the key to the nature of institutional change...is the kind of learning and skills that entrepreneurs and their organizations (political and economic) acquire” (1994, 14). In this view, new skills and norms lead to the gradual alterations of informal rules and constraints. Education campaigns try to encourage exactly this form of transfer, but whether skills and norms in a training program become so generalized and routinized as to constitute institutional change remains unknown. These are fundamental questions for understanding the origins of institutions and the prospects for state-building on the margin.

To help answer these questions, we experimentally and qualitatively evaluate a United Nations alternative dispute resolution (ADR) campaign in rural Liberia. The intervention focused on improving informal conflict resolution institutions by teaching skills and practices (i.e. how to resolve disputes) and instilling norms (i.e. how disputes *ought* to be resolved). The intervention reached at least 12,000 Liberian adults. Each participant received short trainings in small groups over several weeks. By targeting 15% of adults in the towns and villages that participated, the intervention intended these skills and norms to diffuse to the community and to become routine.

To assess the extent to which the intervention met these goals, we follow 243 communities over two years. We randomly assigned 85 to the UN intervention. They received training between 1 and 20 months (an average of 10.6 months) before our surveys. We survey over 10,000 people and complement the survey with a qualitative study of 20 communities over two years.

The results suggest that small interventions can exert surprisingly large effects on participants. In the communities we study, a quarter of the residents report serious land disputes in the previous year. We see no short-term impact of the intervention on the incidence or severity of these disputes—if anything, disputes increase as residents addressed old quarrels or voiced new

ones. Overall, however, the intervention promotes conflict resolution: with treatment, the proportion of unresolved land disputes at year-end dropped from 7% to 5%—a 28% decrease. The proportion of disputes resolved in an informal forum rises 22%, and the proportion of people satisfied with their resolution rises from 58% to 64%—an 11% increase. This increase in resolution seems to have been greatest among longstanding land disputes dating from the war. We hypothesize treated towns will see less conflict and more investment in the future.

Are higher rates of land dispute resolution evidence of institutional change or just individual change? We cannot say conclusively so soon after the intervention. Nonetheless, three findings suggest these impacts may be general and lasting. First, we show the impacts spilled over onto untreated residents, implying wide and rapid diffusion. Second, we show the impacts are persistent. Third, our qualitative work suggests that the intervention was effective at resolution not just because it helped identify better bargains, but also because residents changed their beliefs about acceptable ways to resolve a dispute. The intervention increased the legitimacy of informal practices and forums, decreased the legitimacy of formal ones, and stigmatized defection to other informal forums. The new skills and norms helped solve a collective action problem as residents coordinated on particular practices and forums and created more self-enforcing bargains.

Stronger evidence on institutionalization requires long-term study of these communities. For now, the results provide cautious support to advocate-centered theories of change—the same that underlie theories of international norm diffusion. The results suggest that outside actors can influence behavior and build institutions on the margin, and that education can promote collective action when it fosters practices and norms that make cooperative equilibria more appealing and defection more costly.

1. Intervention

We study an intervention in Liberia, a West African nation of roughly 3.5 million people. Between 1989 and 2003, intermittent civil war killed hundreds of thousands and displaced a majority of the population. A 2003 agreement ushered in a fragile peace, and two mostly peaceful elections ensued. Formal justice and conflict resolution systems are slowly rebuilding. Police and courts, however, have little reach outside a few towns, and are largely expensive, inefficient and corrupt (Isser, Lubkemann et al. 2009; Sandefur and Siddiqi 2011).

As a result, Liberians mostly rely on local, informal institutions to manage disputes. The volume of disputes, however, strains these institutions. In 2011, 16% of Liberians reported that someone occupied their land during the war, 16% reported a land dispute since the war's end, and 10% reported another major dispute, such as over money or inheritances (Vinck, Pham et al. 2011). 20% of disputes turned violent (p.49). Roughly 40% of land disputes and 16% of non-land disputes remained unresolved (p.61). Liberia is hardly exceptional in this regard; high levels of disputes and violence are common throughout the region (Richards and Chauveau 2007).

Like other poor or weak states, local disputes are difficult to resolve. There is often no single acknowledged authority to mediate disputes or enforce bargains and rival forums for resolution (customary leaders, administrative leaders, elders, courts, police). Parties to a dispute can “shop” forums for a ruling in their favor. Contracts, wills, loans, and property title are seldom recorded (in Liberia, few existing records survived the war), boundaries are poorly marked, and there are often competing claims to the same house, market spot, or farmland.

Intervention design

To tackle these challenges, in 2009-10 the UN and the Government of Liberia directed the United Nations High Commission for Refugees (UNHCR) and a non-governmental organization

(NGO), the Justice and Peace Commission (JPC), to run an alternative dispute resolution campaign in 85 rural Liberian communities: the “Community Empowerment Program”.

In each community, the intervention set out to convince a critical mass of leaders and residents of the benefits of mediated solutions, discourage the use of formal courts and police, discourage forum-shopping, and encourage and teach residents to mediate and negotiate directly. To do so, the intervention invited 15% of adults in each community to attend training workshops. Between 10,000 and 15,000 were trained. Each workshop involved eight days of training in groups of roughly 35 residents, led by two JPC facilitators. Each person’s eight training days were spread over two months, so that participants could practice in between. Individually the training was modest, but the goal of training this critical mass resulted in a long facilitator presence, often two to four months.

The specific tools, skills and practices emphasized in training include: (i) direct engagement in disputes; (ii) strategies for problem solving and negotiation; (iii) face-saving and “positive-sum” resolutions, and (iv) avoidance of forum shopping and the formal justice system (which, it is taught, have none of characteristics i to iii). Almost all lessons combined lecture with small group sessions, participatory dramas, and opportunities for individuals to share their experiences.

An important aspect of the intervention was out-of-classroom engagement. Facilitators lived in communities, and our qualitative work suggests that they formed bonds of trust with their hosts and were held in high esteem. The “after-hours” participation in community life provided an opportunity to demonstrate, facilitate, and reinforce the ideas and norms taught in workshops.

Target population and participants

UNHCR implemented the intervention in three of the most populous counties in Liberia: Lofa, Nimba and Grand Gedeh. These counties experienced more war-related displacement and dis-

ruption than other regions, and thus were expected to have more land disputes and weaker social bonds. The government and UNHCR attempted to target “conflict-prone” communities by asking county officials and elders to nominate communities that they felt could benefit from the intervention and were prone to disputes.

These leaders nominated 246 towns and villages ranging in size from 100 to 5000 persons. Roughly a quarter had no road access. Baseline survey data show high levels of conflict. In the previous year, 10% of communities reported a violent ethnic dispute and 7% had a non-violent protest. 10% of residents reported a dispute over money in the past year, 15% reported a theft or burglary, and 28% of residents reported a land dispute since the war’s end (see Online Appendix Table 1 for all statistics). These are not extreme communities—average rates of land conflict in the general county population are comparable or only slightly lower (Pham et al 2011).

Communities also had prior exposure to the ideas underlying the intervention. At baseline, 41% said they were active participants in a dispute resolution process or group and 28% reported exposure to “peace training” in the past—usually a short civil society workshop. Any impacts must be considered in light of this prior exposure and the potential for diminishing returns.

The intervention was not very selective within communities. Community leaders mobilized residents to attend. They appear to have started with leaders and opinion-makers (as one would expect) but they were forced to focus largely on ordinary residents in order to meet the ambitious target of 15% of all adults. In the end, those who participated look much like those who did not. An analysis of participation on pre-intervention traits shows that religion and minority status had little association with attendance (Online Appendix Table 2). The strongest correlates of land conflict—having your land or house taken during the war, having been a refugee or displaced, or

being a victim of war violence—also have little association with participation. However, attendees were slightly more likely to be older, male, have land, and be born in the community.

2. Theory and intended impacts

The ADR campaign we study is typical of health, voter turnout, and conflict resolution interventions: elites or outsiders broadcast a new set of skills and values and expect behavior to change as a result. Underlying incentives have not changed, however, and whether we should see sustained change is an open question. We illustrate how the intervention tries to teach people how to better resolve disputes (teach skills) and persuade people to resolve disputes in particular ways (foster norms). Both promote cooperation and collective action.

The most familiar model in the collective action literature is the standard one-shot prisoner's dilemma game, where both parties have incentives to defect from a cooperative outcome. Another common variant is a game with multiple equilibria (sometimes called the Stag Hunt game)—each party cooperates when the other cooperates, but defects when the other defects (Bardhan 1993). In the context of conflict resolution, we can think of “cooperation” as a resolution that leaves both parties satisfied enough to stop active dispute, while defection is failure to reach a resolution—perhaps the absence of agreement, one party's defection to another forum or authority figure, or even aggression. Both games abstract away from salient issues in real-world cooperation, but both capture a central insight: conflicts persist even when there are resolutions that would serve both parties' interests (Axelrod 1984; Mnookin and Ross 1995).

Conflict resolution by teaching skills

The most basic aim of the intervention was to impart specific skills that would help trainees to identify and reach better bargains than previously available. In the simple collective action models above, this has two analogies: first, increasing the payoffs to the cooperative equilibrium,

potentially to the point where defection is no longer a dominant strategy; and second, in the case of multiple equilibria, helping parties become better at coordinating cooperation.

“Rationalist” theories of conflict emphasize how even calculating and self-interested parties can fail to reach a cooperative bargain if they have incentives to conceal information (Fearon 1995). Scholars have also identified a number of non-rational psychological barriers to conflict resolution: selective interpretation of facts; differing perceptions of fairness; loss aversion; and the undervaluation of concessions (Kahneman and Tversky 1995; Mnookin and Ross 1995).

Dispute resolution involves techniques designed to overcome these challenges. ADR is an important legal innovation, one that developed in commercial and labor law in the United States, and then later extended to family law and to other countries (Mnookin 1998; Kohlhagen 2006). It is a set of techniques for resolving disagreements without litigation or formal authorities, either with an informal third party (“mediation”) or without (“negotiation”).

Neither mediation nor negotiation was new to Liberia. Indeed, they are traditional forms of dispute resolution in many or even most societies. Modern ADR, however, includes a number of techniques to improve the flow of communication and maintain trust: an emphasis on maintaining respect, on “active listening” (repeating back the other person’s concerns), and avoidance of accusatory statements. It teaches people to be aware of their biases and the negative consequences of misinformation. It pushes parties to view the conflict from the other’s point of view to lessen perceived unfairness (empathy and sympathy). It emphasizes mutually advantageous bargains and the goal of having disputes resolved rather than decided. While it encourages direct negotiation, it also instructs people on how to be effective mediators. Mass training also creates a shared language and concepts—important for any collaborative tool.

In theory, these skills and shared language could increase capacity for coordination by reducing information asymmetries, keeping people at the bargaining table, and making participants more open to bargains with mutual gains. In this sense, the training set out to teach a “technology” of dispute resolution and see it diffuse. Technologies are public goods, and the ADR intervention encouraged residents to pass on the message of the intervention by teaching others, and engaging in disputes around them. Untrained residents can learn by observation or direct interaction with a trainee. The target of training 15% of a community was partly to maximize diffusion.

Conflict resolution by changing norms

In addition to skills (or *how* to resolve conflicts) the intervention stressed new norms (how conflict resolution *ought* to be practiced). These included social norms: people’s perceptions of what is commonly approved or disapproved and enforced by members of the community. It also included private norms: ideas of appropriate behavior sustained by feelings of shame, anxiety and guilt (Elster 1989). In the collective action models above, social and private norms can promote cooperation by penalizing defection, potentially making cooperation a dominant strategy. It is a means of providing enforcement or commitment in the absence of strong, centralized, third party institutions (Bardhan 1993). Indeed, group norms and their ability to solve a coordination problem have been used to explain the evolutionary emergence of individual property rights before the emergence of centralized state enforcement (Bowles and Choi 2002).

Civic education campaigns often try to persuade people of the value of particular norms, and thereby induce them to adopt or “internalize” those norms. Internalization of a norm is akin to transforming a social to a private norm, one followed to avoid shame or guilt rather than social sanctions (Elster 1989). Internalization is useful for sustaining cooperation since it reduces en-

enforcement costs. The norms promoted by the intervention can be viewed as attempts to create strong internal (private) and social disapproval for defection.

Why would individuals internalize norms simply because of training? Why not defect to another authority if mediated agreements are not enforced? A large qualitative literature on international norm diffusion emphasizes the power of persuasion in explaining change across countries and within them (Finnemore and Sikkink 1998; Cloward 2010). These accounts argue that third parties can use their status, resources, and skills of persuasion to convince a core of influential actors to change value systems. Once this constituency grows large enough, the rest follow in a cascade effect. These accounts of norm change are advocate-centered rather than incentive-centered, and stress the importance of the “push” of persuasion over the “pull” of incentives. An alternate view is skeptical of such push approaches. Jackman and Miller (2004), for instance, argue that citizens act in light of institutional and other constraints that generate incentive structures. Norm and behavior change is the product of changed incentive structures, not the source.

Building “institutions”

The challenge facing disputants in a country like Liberia is not an absence of resolution institutions but a plethora of them, with no mechanism to enforce the use or authority of any one. The intervention might be particularly well-suited to this situation: it aimed not to invent brand new informal institutions, but rather push residents to commit to a particular existing informal process and forum once they agreed to use it.

At what point do individual skills and norms become informal institutions? As we describe in the introduction, we follow scholars such as North and Bardhan in interpreting informal institutional change as the generalization of the skills and norms into routine practice. Sufficiently widespread learning and adoption of new ADR practices could constitute institutionalization in

this view. Adoption of norms that facilitate coordination on a particular forum and enforce commitments is a clearer example of institutionalization. In the collective action framework discussed above, this should reduce the incentives to defect from the cooperative equilibrium, and increase the probability that individual disputes find a satisfactory bargain.

Unfortunately, this change is not only difficult to measure, but undoubtedly takes longer than the short timeline of this study. Thus we will not be able to fully detect institutionalization. We outline the institutional motivation and theory for three reasons, however. First, the express aim of this intervention—like many others—is not short-term behavior change but sustained, self-enforcing institutional change. It cannot be ignored. Second, the theories underlying cooperation and behavior change are inherently “institutional” when they rely on changing norms about what authorities to engage and how to engage them. Third, in a short-term we can attempt to test for the early steps and indicators of institutional change, but only if we know what to look for.

3. Research design

This intervention presents an opportunity to test whether behavior in high-stakes disputes changes as a result of an advocate-centered “push” of particular norms and skills, with no other change in incentives. Through a randomized control trial, we are able to compare the levels, nature, and resolution of disputes in communities that did and did not receive the intervention. To assess the theory and mechanisms, we conduct in-depth qualitative work in treated communities.

Experimental design

We worked with the implementers to randomize the intervention at the community level. Demand for the intervention outstripped funding, and government officials generated 246 eligible towns and villages. 116 communities were randomly assigned to treatment, stratified by the three counties. We were unable to randomize invitations within communities.

24 facilitators, working in pairs, visited communities sequentially, implementing the intervention over 21 months, from March 2009 to November 2010. We assigned communities to one of five phases, randomizing the order of treatment. We did so to measure the impact of time since treatment, but also to guard against interruption. Luckily so—resource constraints meant UNHCR stopped in phase 4, with 85 communities treated out of 86 assigned to phases 1 to 4. Our thus control group has 160 communities: those assigned to phase 5 plus original controls.²

Moreover, because of delays, only the phase 3 communities had completed treatment by the time of the endline survey. 68 of the 70 assigned to phases 1 to 3 were treated before the endline survey. Phase 4 was conducted concurrent with the endline survey (an unfortunate necessity given financial, logistical and weather constraints). These concurrently treated communities are, fortunately, randomly assigned, and so we can estimate their effect separately.

Communities were widely spread with little risk of spillovers between them. A comparison of baseline individual- and community-level characteristics—including demographics, prior levels of conflict and cohesion, and prior exposure to NGO programs and education campaigns—shows balance between treatment and control communities (see Online Appendix Table 1).

Data

To evaluate impacts, we collected original baseline and endline survey data from March to April 2009 and November 2010 to January 2011. We have data from 243 of the 246 communi-

² 26 of the 116 communities (and 16 of the 68 in phases 1 to 3) were assigned to “intense” treatment and offered 30 to 40% more workshops. Partly because of the early end of the intervention, however, this analysis is low-powered and inconclusive. We discuss it in the Online Appendix.

ties. Two extremely remote villages could not be reached by the intervention or survey team, and one very small village disbanded before the endline. All three were in the control group.

The main outcomes come from survey questions about the incidence, nature, and resolution of disputes. We are interested in disputes at the community and individual level. To measure community-level outcomes (e.g. ethnic violence) and traits (e.g. size) we surveyed four leaders at baseline and endline—typically a town chief and a female, youth, and minority leader. We followed the leadership position rather than the person, so the leader survey is not a panel. We use the average response for continuous measures and the modal response for indicators.

To measure individual outcomes and traits, we surveyed random cross-sections of 20 residents per community at both baseline and endline.³ At baseline, before assigning treatment status, we also asked leaders to propose three “targeted residents”—one elder, one “influential person” and one “troublemaker”—who would be invited to attend the training if the community were treated. We followed them as a panel, mainly to ensure a minimum sample with a high likelihood of training. We pool them with residents. Thus our treatment and control samples both slightly over-represent persons targeted by the intervention. As we are measuring impacts at the community level (rather than individual impacts) this does not pose a problem for our inference.

Qualitative methods

To complement the quantitative analysis, we also collected extensive qualitative data before, during and after the intervention. We collected qualitative data to deepen our understanding of

³ No census frame existed, so a team walked each community and divided it into roughly equal blocks, chose a random pathway, counted all houses in that path, and randomly chose a set number. Household members were selected randomly and appointments made for interview.

disputes and dispute resolution processes, assess the quality of intervention implementation, enrich our quantitative findings, and help us hypothesize about the mechanisms driving the results. We collected three main types of data. First, researchers acted as participant-observers in 20 community trainings. Second, over the course of the intervention, we interviewed 15 JPC facilitators to solicit their opinions on intervention successes and shortcomings. Third, in conjunction with two Liberian research assistants trained by the authors, we interviewed leaders and residents in 20 purposefully selected communities. We selected communities with high and low values of the dependent variable (dispute levels) and important traits (wartime violence, remoteness and size). We conducted 104 interviews between April 2009 and December 2010, totaling roughly 80 hours of recorded material. The interviews followed a semi-scripted questionnaire, but were largely open-ended and covered a range of topics, including conflict, governance, group relations, and intervention reactions. We sampled participants for interviews non-randomly. Where possible, we interviewed up same individuals on multiple occasions in order to explore their thoughts and experiences over time. We and our research assistants took detailed field notes and, when possible, recorded the interviews. All interviews were transcribed and annotated using a set of standardized, thematic coding rules.

4. Descriptive analysis: Conflict and dispute resolution in Liberia

We discuss qualitative findings in two stages. First, we describe disputes, resolution processes, and barriers to cooperation on the eve of the intervention. Second, following the experimental analysis below, we explore qualitative impacts and mechanisms.

Six features of the setting deserve mention. First is the near absence of state presence in most communities that are located outside the capital and major towns. In most locations, the state (including formal justice) is only weakly present. Even when basic health, education and security

services are available they are only accessible through interpersonal relationships and bribes. These conditions may have been one factor that contributed to the high levels of openness and enthusiasm toward the alternative dispute resolution training.

Second, in the communities we studied, we found multiple, competing, and unpredictable institutions involved in dispute resolution, impeding the easy resolution of disputes. During interviews about land disputes, town chiefs, police, magistrates, and family heads all stated that they were responsible for land disputes. When people narrated the history of their dispute, they almost always mentioned the intervention of multiple authorities. We classify four types of authority: statutory authorities who handle criminal and civil cases in the formal justice system (like judges); state-appointed administrative authorities (such as district commissioners); customary authorities (traditional chiefs and elder councils) who historically adjudicated local disputes; and civil society actors including religious leaders, group leaders, elders, and influential residents.

Coordinating on and committing to a single institution is especially difficult. In one case, a dispute emerged between two villages when an aid organization helped one village plant a palm oil plantation on the land between them. When leaders in the two villages could not agree on the traditional (and undocumented) boundary, they first visited traditional leaders and elders, then turned to the district's senior administrative official, and finally went to the magistrate court. The different authorities offered conflicting decisions, and neither village abided by the rulings.

This case also illustrates a third point: the inability to cooperate increases tensions and can escalate into violence. Unable to resolve the above dispute through a succession of authorities, violent tit-for-tat incidents and reprisals ensued as armed men from each village attacked the other. When one village's youth leader disappeared in the forest, the village leadership accused the rival village of cannibalizing him because of the dispute, deepening the cleavage and the conflict.

Fourth, institutions are unpredictable and internally inconsistent. Each authority uses a combination of negotiation, compromise and adjudication. Even when disputants brought cases to statutory authorities, they often used non-statutory means to try to resolve the dispute. In local parlance, this is known as “compromising” the case. In one domestic dispute in Grand Gedeh we observed, the Magistrate in the local court did not enforce a legal penalty, but rather tried to fine one of the parties to the case based on the his own moral judgment and an agreement from both parties that this was the right thing to do. The formal authorities viewed this inconsistency as an advantage, as the flexibility helps resolution. But many individuals complained of unpredictability and mistrust because the rule of law within an institution was uncertain or biased. The absence of a clear process within a specific forum makes it difficult to commit beforehand to abide by it. As a result, we found that people often disagreed on which authority should intervene in a given dispute. In other cases, parties would simply “forum shop” for a more favorable outcome.

Fifth, we found that informal and formal dispute resolution institutions favored certain groups over others—a factor that exacerbated the forum shopping, irresolution, and escalation described above. It also meant that any intervention must address deep social cleavages—a path fraught with risks as well as potential benefits. One example: exclusion of youth and women do not reflect Liberian statutory law or international human rights standards, but we found that in communities we visited the rights of these low-powered groups are deeply controversial. During our observation of the workshop, the issues that ignited some of the most furious debate (and ire of the traditional authorities) were those that emphasized the equal rights of women and youth.

Ethnic cleavages, which underlie many disputes, were also especially sensitive. Liberia has 16 major ethnic groups, and the war was fought partly along ethnic lines. Most of our study communities had a minority “immigrant” group (who had often been present for generations).

These ethnic group cleavages were also economic ones; some minority groups (particularly Muslim ones) are wealthier traders and shopkeepers. In some cases these groups intermarry and live harmoniously. More often, the division is tense, especially over land rights. We observed that when elders discussed a dispute or problem facing a community, members of non-indigenous tribes hesitated to speak up, even when they were involved. During a meeting of elders during one land dispute in a rural part of eastern Nimba County, the schoolteacher, an educated and respected man in the community, said that he had not been asked to participate because although he had lived in the town for 20 years and the dispute involved school land, he was not “from” the community. In our study communities, two thirds of citizens in the communities under study reported prejudicial views of other ethnic groups, especially minority Muslims. Thus disputes that fall along group lines are marred by suspicion and prejudice, and few forums are seen as unbiased. Both factors exacerbate coordination and commitment to a forum and a resolution.

Sixth, while some ideas and norms in the intervention (such as equal rights for youth) were controversial and seen as foreign, the principles of mediation and negotiation were broadly consistent with traditional techniques for resolving conflicts. Thus the training mixed new ideas, and introduced new problem-solving skills, with familiar practices. We expected this congruence to improve chances of success, and (as we discuss below) it may be an important scope condition.

5. Quantitative empirical strategy and results

We focused our data collection on the ultimate outcomes of any behavioral or institutional change: the incidence of disputes, the proportion that turn violent, whether the disputes were resolved, and how. If the skills and norms are successfully imparted and diffused, we would expect the incidence of disputes to decrease, fewer to turn violent, more to be resolved, and more to em-

ploy informal channels for resolution. Table 1 shows mean levels of major disputes reported by residents and targeted residents.

The most common disputes included interpersonal matters, disputes between family members (including domestic disputes), disputes over loans and money, fighting, and petty crime. By far the most important disputes that ended up before local authorities were disputes over land and property rights. Many land disputes resulted from conflict dynamics during the war, including massive displacement and inter-ethnic disputes over land. As a result, the main focus of our data collection was land disputes—over land boundaries, inheritance, and usage. We also asked a similar battery of questions about money and business disputes (though for these questions we did not collect data on violence, an oversight). Group and community-level disputes were not a central focus of the intervention, but we assess the incidence of these as well.

We also attempt, with survey questions, to measure more directly the desired changes in norms: over dispute resolution (attitudes towards the formal court system, and attitudes towards assertive mediation) and progressive or liberal attitudes also promoted by the intervention (supporting women’s and minority rights, and discouraging ethnic discrimination).

With any of the above impacts, how can we distinguish between “behavior” change and “institutional” change? With such a short time frame, it is premature to claim institutional change. Nonetheless, an important and necessary step towards institutional change is the spread of behavioral change from those who were trained to those who were not. Below, we assess both direct treatment effects on trained participants and bound the indirect treatment effects from diffusion.

The average treatment effect (ATE) we estimate is a Complier Average Causal Effect (CA-CE). This uses random assignment, A_j , as an instrument for being treated, T_j . In this case, they are nearly identical: 68 of 70 phase 1 to 3 communities were treated before the survey, and 15 of

16 phase 4 communities (plus the two phase 3 communities) were treated concurrently with the survey. Hence the intent-to-treat ATE is virtually identical to the CACE, and we display the latter only. For outcomes Y_{ij} , we estimate a linear two-stage least squares regression:

$$Y_{ij} = \theta T_j + \beta X_{ij} + \alpha_j + \mu_j + \varepsilon_{ij} \quad (1a)$$

$$T_{ij} = \theta A_j + \beta X_{ij} + \alpha_j + \mu_j + \varepsilon_{ij} \quad (1b)$$

where A_j is a vector of assignment indicators (*Ever assigned to phases 1 to 4*, and *Assigned to the concurrent Phase 4*), T_j is a vector of treatment indicators (*Community ever treated* and *Concurrent treatment*), X_{ij} is a vector of baseline covariates,⁴ α_j is a district fixed effect, μ_j is a community error term (to account for clustering of standard errors), and ε_{ij} is an i.i.d. error term. The ATE estimate is θ . We do not weight by population sampling probability. We test, however, for robustness to non-linear models, population weights, and controls (Online Appendix Table 4).

Note that the ATE includes the direct effect of the intervention on trained residents plus any spillover onto untrained residents. We could not individually randomly assign residents to training, and so we cannot identify the causal effects on trained versus non-trained residents. Moreover, at the time we evaluated the intervention in late 2010, communities had completed treatment anywhere from 1 to 18 months previous, with an average time since treatment of 10.6 months. Thus the ATE reflects the average of earlier versus later treatment. As communities were assigned to phases randomly, we can also estimate change over time by using random assignment to phases as an instrument for time since treatment.

⁴ We control for resident age, sex, religion, ethnicity, education, income, assets, land, occupation, and war experiences. For communities, we include distance from roads, infrastructure, ethnic and religious composition, and size. See Online Appendix Tables 1 and 3 for summary statistics.

Note that outcomes are self-reported. If disputes are underreported, then we will underestimate the ATE. We are more concerned with measurement error that is correlated with treatment. If training leads residents to under-report disputes, or repeat back norms, we will overestimate the ATE. Since, as we see below, we see no reported change in several types of disputes and norms, we are skeptical such systematic measurement error drives our general results.

Impacts on Land Disputes

Overall, treated communities report no change in the level of land conflict, but they do report higher proportions of disputes resolved, increased informal resolution, and higher levels of satisfaction with the outcome. Moreover, the increase in dispute resolution, and some reduction in violent disputes, appears to come from resolution of the most intransigent land disputes.

Residents were first asked whether they had experienced *Any serious land dispute* in the past year (where “serious” colloquially means non-trivial). 22% of the sample reported a dispute, mainly over land boundaries or right of use (Table 1). These conflicts result in hostility in more than half the cases: 12% of the sample reports a *Dispute results in violence, property destruction or threats*—roughly evenly divided between threats (50%) and interpersonal violence or property destruction (33% and 16%), including beatings, fights, arson, or crop destruction. About 71% of those reporting a dispute say the dispute was resolved, leaving 6% of the population with an *Unresolved land dispute*. About 20% of disputes were *Resolved via an informal mechanism*, as opposed to customary systems (36%), or other formal or administrative courts (10%). Finally, of those reporting a dispute, 60% say they are *Satisfied with the outcome*.

Average treatment effects. Table 2 displays ATE estimates for each outcome, in absolute terms and relative to the control mean. Looking at the effect of ever being treated, there is no evidence of a decrease in levels of land disputes—the coefficient is actually positive but small.

Disputes resulting in some form of violence decrease by 1 percentage point—an 8% fall relative to the control group mean, but the difference is not statistically significant. Rates of resolution and satisfaction rise substantially, however. *Unresolved land disputes* fall by 2 percentage points (a 28% fall relative to the control group). Among those who report a dispute, this implies an 8 percentage point increase in the proportion of *Resolved land disputes*.

This increase in resolutions is not happening in the formal and customary forums, there is a 4.2 percentage point (22%) increase in the proportion of disputes *Resolved via informal mechanism* (significant at the 10% level only). *Satisfaction with the outcome* also increases 6.5 percentage points, a 12% increase over controls (also significant at the 10% level only).

All results are robust to an intention-to-treat specification, the exclusion of control variables, a limited dependent variable regression model such as *probit*, weighting by community population, and other specification changes (see Online Appendix Table 4). We see little effect of intense treatment, perhaps because of the small number of communities and modest increase in intensity (see Online Appendix Table 5). 25% of our sample reports participating in the training, and this is just 9 percentage points greater in the 16 intense treated communities. We see no significant difference in levels of land disputes or the nature of their resolution. The point estimates are not consistent, however, with more intense treatment increasing conflict resolved.

The simplest interpretation of these patterns is that, in the short run, the intervention does not change the number of disputes, perhaps because the intervention encourages individuals to re-engage old disputes that had previously lain dormant. The positive (though not statistically significant) coefficients for concurrent treatment are consistent with the opening of these old wounds. Disputes, however, are more likely to be resolved, especially in informal forums, and more likely to lead to satisfaction, suggesting the intervention's skills and norms are adopted.

Without long-term data we do not know the durability of these resolutions, but satisfaction rates suggest such resolutions are less likely to be renegeed on.

Are the easiest or most difficult disputes resolved? Some of the most persistent and intransigent conflicts are those that relate to the war. 84% of residents were *Displaced or refugees* during the war, leading to a nation of abandoned properties and squatters. 9% report that their *House spot was taken during the war*, and 9% report *Farm land was taken*. Indeed, the largest and most robust correlates of land conflict include an indicator for a *House or land taken during war* (see Online Appendix Table 6).

Does the intervention help with these serious and longstanding disputes, or more with recent and less intransigent ones? Unfortunately we do not have data on the history or seriousness of the land disputes. However, we can look at the impact of treatment depending on whether they had their *House or land taken*, an indicator of these longstanding disputes. In Table 3, we see *House or land taken* is a strong determinant of the incidence and violence of land disputes. The interaction term in that table tells us the impact of the intervention on those with house and land taken and higher levels of exposure to violence during the war. The interaction is small and insignificant for *Any serious land dispute*—to be expected, since there is no significant ATE for this outcome. Turning to the level of violent conflict and unresolved conflict, however, we see that the treatment had a substantial impact on those with house or land taken—roughly half of the ATE is explained by it. The coefficient on treatment halves and is statistically not significant, while the interactions between treatment and baseline characteristics are large and significant. We see little evidence of heterogeneity of impact by other characteristics, including gender, ethnicity, exposure to war violence, or town characteristics (regressions not shown).

Impact on property ownership and security. With increased resolution, it is possible that property rights are strengthened and residents increase property investments (Goldstein and Udry 2008). An average of 10.6 months since treatment is probably too short a time in which to see such effects, but we investigate nevertheless. Table 4 displays ATEs on property ownership, use, and perceptions of security. We do not see any short-term impact on property rights or ownership. There is little relationship between living in a treated community and *Acres of farmland owned*, *Ownership of land for business*, *Owning or planting trees* (a long term investment), or *Housing quality*. Among those who own farmland, expected security is already high, with 76% of the control group reporting they felt they would still possess that land in five years. That tenure security is 3% higher in treated communities, but the difference is not significant. It is possible that property security, ownership and investment will increase in the years ahead, however.

Impacts on other interpersonal disputes

Land disputes are the most common form of dispute, but 13% of residents also report a *Money or business dispute* in the past year (Table 1), typically with family (23%) or friends and neighbors (56%). Such disputes typically concern loans, shared farming, and petty theft. Roughly half of these disputes are resolved, with 6% reporting an *Unresolved money or business dispute* at the time of the survey. The most common forums for resolution of these disputes are informal systems, followed by customary systems, while formal courts play less of a role.

Table 5 displays ATEs for each of these outcomes. Like land disputes, we see suggestions of a weak rise in the incidence of disputes—a 15% increase in disputes (not statistically significant). Unlike land disputes, however, we do not see a significant rise in resolutions for those with a dispute.. Of those with a dispute, we see 7% higher resolution rates and 9% higher satisfaction

with the outcome as a result of treatment, but neither impact is significant. The intervention had a more robust impact on land conflicts.

Table 5 also displays ATEs for whether the individual was in a *Physical fight with others* in the past year. Here we see a significant increase in fights: 5% of the control group report a physical fight but residents in treated communities are 1.6 percentage points (or 31%) more likely to report a fight. As with the weak rise in land and money conflicts we see above, the increase might be explained by the fact that the training encourages disputants to engage directly in disputes and to actively seek a resolution. While the intervention does increase satisfaction with dispute resolution, it also may increase the severity of certain types of disputes, at least in the short term. In the end these seem to be resolved at least the same rate, however.

Impacts on community-level disputes and conflict

Table 6 displays the ATEs on indicators for a number of town-level disputes, as reported by leaders. The most violent disputes decline with treatment. The incidence of *Inter-tribal violence* and *Violent strikes or protest* fall 35% and 50% relative to the control means, though none of these declines is statistically significant, perhaps in part because the analysis is underpowered for rarer events. Some non-violent disputes increase, meanwhile. Treated towns report a 17 percentage point (or 70%) increase in the *Number of youth-elder disputes* reported, and an 8.4 percentage point (or 147% increase) in whether leaders report a *Peaceful strike or protest*.

Youth-elder disputes are commonplace and often stem from struggles over power in the community. Youth frequently complain that elders do not give them enough voice in decisions about collective agriculture or community fines and taxes. Strikes and protests occur over the perceived corruption of leaders and the absence of youth influence in family and community decisions. Controversially, the training curriculum emphasizes that elders should deal with youth

on a more equal basis. As a consequence, in our qualitative work we observed the training resulting in youth-elder disputes early and often. This is perhaps why we see an even greater rise in conflict concurrent with the intervention—the coefficient is so large that it implies that nearly all treated communities had a youth-elder dispute. This may account for the rise in non-violent protest as well. The results are consistent with the slight rises in land and monetary disputes seen above, but probably have different and less consequential origins and long-term effects.

Finally, two conflicts that may or may not involve violence—the *Number of conflicts with other towns*, and the *Number of inter-family land disputes* reported by leaders—fall 8% and 22% relative to the control mean, though again this decline is not statistically significant.

Impacts on self-reported norms

The available data focus on dispute outcomes rather than norms. The theory of change underlying the intervention, however, relied on persuasion to change views of acceptable attitudes and actions. We have a limited number of measures that help assess (incompletely) the impact on norms. Table 7 displays ATEs. We have data from targeted residents and leaders on whether they *Would bring a money dispute to a magistrate's court*, to assess the impact of the intervention's message against using formal institutions for small matters. 23% of the control suggested they would bring a money dispute to court, and this is 5.4 percentage points (or 24%) lower in treated communities. The question was not included in the shorter residents survey.

We also have data from targeted residents and leaders about three conflicts, and what approach they would take to resolution. These hypothetical scenarios were designed to be similar to examples in the written training curriculum, and each question offered an “assertive mediation” option closest to the training. Residents in both the treatment and control group score roughly 3.4 on an *Assertive mediation index* based on these questions, with little difference between the two

groups. This suggests either that this set of messages was not internalized, or that our hypothetical scenarios were insufficiently clear or linked to the curriculum in practice.

Finally, there are data on a wide range of “progressive” attitudes—once more oriented towards tolerance and human rights. We assemble these questions in four standardized indices or z-scores, including indices of *Women’s rights attitudes*, *Minority rights attitudes*, *Ethnic tolerance*, and *Intermarriage acceptance* (of different ethnicities and religions—a contentious issue). We also look at a combined *Index of overall progressive attitudes*. In all cases higher scores are more progressive. Residents in treated communities report a small (0.063 standard deviation) increase in progressive attitudes, not quite significant at the 10% level. We see increases of a similar magnitude across minority rights, ethnic tolerance, and acceptance of intermarriage, though only the intermarriage index is individually significant. This may reflect the difficulty of changing and measuring prejudice, especially when it is not a focus of the training.

Impacts over time

Do impacts increase or decay over time? Is there any evidence that the impact on land conflict resolution we observe is temporary? Table 8 examines treated communities only, using assignments to phases as instruments for months since the midpoint of the intervention. The first stage regression is strong, with an F-statistic on the phase dummies over 200.

Two important results emerge. First, the coefficient on *Any unresolved land dispute* is positive but close to zero and not statistically significant. This implies the decrease in unresolved land conflicts appears to sustain itself over this timeframe, and shows no evidence of decay. Second, the coefficients on the incidence of land disputes (at the individual and community level) as well as the violence of land disputes are positive and significant. That is, early-treated communities report more and more violent disputes than late-treated ones. Recall that the coefficient

on land disputes in Table 2 was positive but not significant, however. This implies the patterns are consistent with other incidence results throughout the paper: encouragement to engage disputes increase dispute levels, perhaps even violence, even if levels of resolution are ultimately greater. In the case of land disputes, this may take more time to emerge, hence the larger and more significant effect of treatment for early-treated communities but no significant average treatment effect overall. We hypothesize that, if followed up some months later, levels of reported land disputes would be higher and more significant. Over time, however, with more and more satisfactory resolutions we might expect land conflict, especially violent conflict to fall.

Behavior change or institutional change?

The largest effect of the intervention seems to be on the most common and highest-stakes form of conflict: land disputes, especially disputes with their roots in the Liberian civil war. Does the intervention only affect trainees? Or does the training also spillover to untrained individuals? Evidence of spillovers would point to the potential for the intervention to change norms and behaviors generally—the foundation of institutional change.

Overall we see some evidence of spillovers. If we include in our ATE regression an indicator for having participated in the training, the coefficients on the participation and treatment indicators are positive, similar in magnitude and significant at the 10 percent level (See Online Appendix Table 6). This pattern is consistent with non-participants explaining roughly half the treatment effect. This regression is not identified, however, since participation is not random, even conditional on observables.

Instead we focus on a bounding exercise. The results are consistent with spillovers of the magnitude seen in the unidentified regression above. Imagine a community where a proportion D of the population has a land dispute with one other community member, and these land disputes

are uniformly distributed. In the absence of any intervention, these disputes go unresolved with probability μ . The proportion of unresolved disputes in a control community, U_C , is thus equal to μD . In our control communities, $U_C = \mu D = 0.3 \times 0.22 = 0.066$. Now imagine an education intervention enters and trains some proportion q of the population. If training is unrelated to whether or not one has a dispute (e.g. if it is randomly assigned within the community) then we can express the proportion of unresolved disputes in the community, U_T , as:

$$U_T = [q^2 \mu_{tt} + 2q(1 - q)\mu_{tc} + (1 - q)^2 \mu_{cc}] \times D$$

The probability that the two parties to a dispute are both trained is q^2 , and the probability that their conflict is unresolved is μ_{tt} . The probability that just one party is trained is $2q(1 - q)$ and the probability that their conflict is unresolved is μ_{tc} . Finally, the probability that neither party is trained is $(1 - q)^2$ and the probability that their conflict is unresolved is μ_{cc} . We assume the training does not make it more difficult to resolve disputes, or: $0 \leq \mu_{tt} \leq \mu_{tc} \leq \mu_{cc} \leq \mu$.

The difference between μ and μ_{tt} represents the most direct effect of treatment on the treated. Any difference between μ and μ_{tc} would indicate some degree of spillovers in the community. But the clearest indication of a short-term spillover would be $\mu > \mu_{cc}$. We can bound μ_{cc} using the equations above. Our data yield average levels of μ , D , q , and the ATE, $U_T - U_C$. The strongest assumption is the independence of conflict from the probability of training. This is an important but reasonable assumption for purposes of the thought experiment: analysis of the correlates of training suggest that land ownership and wartime displacement or land seizure—the main determinants of disputes—are unrelated to the probability of training (see Online Appendix Table 5).

The most extreme bound would assume that $\mu_{tt} = \mu_{tc} = 0$ (complete resolution if at least one person is trained). In this case, $\mu_{cc} = 0.36 > \mu$. However, it is only in such extreme cases where $\mu_{cc} \leq 0$. Figure 1 illustrates the values μ_{cc} takes on for various values of μ_{tt} , for three different

cases: where μ_{tc} is just as effective as μ_{tt} , μ_{tc} is two-thirds as effective, and μ_{tc} is half as effective. For nearly all values of μ_{tc} and μ_{tt} , we see evidence of spillovers to the untrained: $\mu_{cc} \leq \mu$. It is only in the most optimistic cases—where $\mu_{tc} = \mu_{tt} < 0.10$ —that the treatment effect is fully explained by conflicts with trainees only. Overall, we believe the ATE we observe is too large to be explained by even extremely high direct impacts of training on a trainee’s own conflicts. These spillovers in so short a period constitute the strongest evidence of generalization.

6. Qualitative Assessments of Impact

Overall, our quantitative evidence points to increase resolution, even among the untrained. Consistent with this result, three major themes emerged from our qualitative investigations: (1) the intervention taught specific skills that enhanced bargaining and coordination, (2) the intervention helped to legitimize existing informal institutions and new informal actors while discouraging the use of the formal system, and (3) ADR was most effective for long lasting land disputes where gains from cooperation were greater and disputants had already exhausted other options. These themes are consistent with our theory of collective action, and offer one explanation for how advocate-centered education campaigns change behavior and institutions.

Skills that enhance bargaining and coordination

While self-reported responses must be taken with some caution, our data nonetheless suggest that the intervention promoted specific skills that helped participants identify and reach better bargains. First, in the communities where the workshop took place, some respondents reported increased capacity for self-reflection and empathy that helped in the bargaining process. Participants described these skills as the increased ability to articulate the issues they faced as a result of a dispute, the importance of seeing the problem from the other person’s different perspective, and the need to apologize. As one participant in a mining town in Grand Gedeh put it: “If I have

offended someone, I must be able to realize that I did something wrong. Both parties must admit it and say ‘I am sorry’” (GP, Barteh Jam, 2.15.2010).

Second, some workshop participants reported changes in their own behavior that they ascribed to the intervention. Interviewees spoke of reconnecting to brothers, wives and other family members with whom they had contentious relationships and an increased ability to resolve old disputes with the tools they learned in the workshop. These changes were not solely self-reported. One participant reported on how the workshop affected his neighbor, who is now able to recognize when he is about to start a dispute, saying: “Now if he gets angry, for example when his children disobey him, he remembers the workshop, he thinks about the things the workshop leader told him and he tries to control himself (EB, Lawalazu, 3.20.2010).

Third, the workshop taught the necessity of working together with other people in the community, including taking the initiative to start a dialogue. Such dialogues can form the basis for cooperation and coordination during the dispute resolution process. In effect, interviewees reported being more likely to come to the bargaining table over a contentious issue. In some interviews, workshop attendees identified taking the initiative as simple renewed interest in “bringing people together”. In Grand Gedeh, one participant explained that bringing people together was his “favorite lesson from the workshop” and something he regularly did since the training (AZ, Toe Town, 10.03 2010). In other cases, interviewees talked about how the intervention helped them to take the initiative to mobilize new informal structures that promote dialogue in the community. In a village in Lofa, one of the participants explained: “After the workshop, we (the community members) sat down together... we decided that in order to work together we need to organize a club...we never had a club in this town here, but after the workshop were able to establish one” (TS, Shandadu, 2010.09.03).

Legitimizing informal institutions

Our qualitative work also suggests that the workshop legitimized existing informal institutions and built acceptance around informal authorities who resolve disputes. The intervention bolstered this legitimacy by teaching skills congruent with local and traditional values. Before the intervention, disputants stated that they preferred to talk through their cases with individuals of traditional authority or with powerful people in the community rather than the courts or police. Prior to the workshop, these authorities mostly used a combination of mediation and adjudication to resolve disputes, with varying degrees of success, and often without being able to describe how they specifically dealt with a dispute other than saying that they “cut” (decided) a case. Asked why they preferred these forums, disputants explained that informal authorities were “bold and unashamed” to discuss sensitive issues and they felt the authorities could reach decisions in difficult cases (CL, Duo Boe, 11.29.2009).

After the workshop, interviewees explained that they still brought disputes to these local authorities, now trained in mediation. They perceived that these old authorities now had skills to better resolve disputes. In one village in Grand Gedeh, one participant explained: “Those who participated in the workshop, now they are available and the it is okay for a person to go to them, and these people use the same skills they learned in the workshop and talk to both people involved in the dispute to solve it” (AG, Toe Town, 10.03.2010). Our interviews suggest that training local authorities integrated ADR techniques into ongoing dispute resolution practice, enhanced the legitimacy of existing systems, and made the messages of the workshop more acceptable and appealing.

At the same time, the workshop left room for, and encouraged, new individuals to get involved in dispute resolution informally. In a number of our interviews, participants reported they

were able to get involved in dispute resolution as a result of the intervention. One participant described how he now intervened in disputes “between the different ethnic-groups, to bring down the tension”—something he had never done before the workshop (GV, Barte Jam, 2.15.2010). In addition to intervening, workshop trainees also describe using mediation techniques. A participant explained “I am not adjudicating a case to decide who is right. Instead I bring people together, I tell them to communicate, to bring their position forward until they can reach an agreement” (MM, Zwedru, 5.1.2009).

The intervention also reinforced the legitimacy of informal institutions by pointing out the disadvantages of the court system and of shopping disputes to different forums. In particular, the workshop emphasized the exorbitant cost of the formal system and how the adjudication process, which often leaves parties dissatisfied and in search of a new resolution, drives a wedge between individuals and families. The mayor of one village in Grand Gedeh put it strongly: “taking a case to the police or the courts, that can bring hatred into the community” (MTT, Toe Town, 11.14.2010). The experiences that many community members had with long, drawn out disputes that ate up money for other resources may have helped them internalize the idea that they should not shop their dispute to different venues or engage the formal court system unless their dispute involved a serious criminal act. By addressing this issue in such an explicit way and by providing an alternative, the intervention created a situation where the group could help enforce the norm of using informal institutions rather formal authorities both through social pressure and by setting positive examples through mediation.

Effect on long-lasting disputes

Finally, our qualitative work finds that mediation outside the formal and customary forums also offered a low-risk, low-cost option for disputants who exhausted other forums. This could

explain why the intervention seems to have been effective with longstanding land disputes, where existing resolution systems have utterly failed. Recent research on land dispute dynamics in Liberia finds that disputes last an average of six years, cost hundreds of dollars to resolve, and in about 40% of cases are linked to at least one incident of violence (Hartman 2012). Resolving these disputes has positive economic and psychological benefits for the disputants and the intervention offers an option that can help individuals to realize these gains.

One example that arose during qualitative fieldwork was a land dispute in Nimba County between a minority Muslim family who returned home after being chased off the land during the war and squatters who had since taken up residence. While the returning refugee was wealthier, his attempts to reclaim the land through administrative authorities failed because he had no proof of ownership beyond an incomplete deed. Living outside Liberia for 10 years meant that his social network was weak, while the other disputants involved in the conflict had many connections with local authorities. The squatters had clearer user rights. Neither party could find a resolution to the dispute that satisfied them after taking their case to the numerous local authorities. Instead, they sought help with a mediated agreement where they would both have to compromise, but would realize some of the value of the disputed land. For high stakes disputes where the gains from a resolution were large and valuable resources had already been lost, the possibility of such an agreement appeared to be a strong motivation for disputants to take the lessons of the intervention to heart and agree to resolve their disputes.

7. Discussion and Conclusions

A great deal of public policy looks like technocratic social engineering. One of the principal tools is the information and education campaign. These are used to change behaviors ranging from voting, sex, respect for human rights, and conflict resolution. The claim that advertising,

training, and signaling can change deeply rooted behaviors without changing fundamental incentives is a bold one. Aspirations are often bolder still, aiming not just to change behavior for a few or for the short term, but to shape skill sets, practices and norms so successfully that they become routine and embedded in social structures. It's important to understand whether this approach to behavior and institutional change works, and why.

One could be forgiven for skepticism. These campaigns, like the intervention we examine, are often promulgated by foreigners and elites. They are short, sometimes as minimal as a radio or billboard campaign or, in this case, eight days of sitting in a workshop. For these and other reasons, we began this study imagining that education campaigns waste scarce peace- and state-building resources to little effect. Worse still, we worried that such an intervention could lead to the escalation of local conflict by upsetting existing balances of power, or encouraging communities to open old wounds, with only a few days of training to attempt to heal them.

Our findings are thus all the more striking. They suggest that modest education interventions have the potential to change behavior around longstanding, endemic disputes over valuable resources like land. The intervention in Liberia did not reduce the level or severity of conflict in the space of one or eighteen months, but it did change dramatically the manner and success of conflict resolution, especially with the most common and important form of conflict: land disputes. If anything, disputes and some violent conflict increased as residents engaged with (then resolved) old conflicts. The treatment effects we observe probably cannot come from direct participants alone, but most likely spill over into disputes between non-participants—a short-term indication of potential institutional change. Behavioral and even institutional change on the margin, it seems, is feasible and achievable with broad education campaigns.

Our theory and qualitative research offer one possible explanation: education campaigns help solve a collective action problem by increasing the quality of bargains available and facilitating coordination. With so many competing forums for resolving conflict, defection to another forum for a different answer is common. Like many countries with poor formal justice systems, the problem is not the absence of dispute resolution institutions but the variety of them. Disputants must be able to agree to a trusted process and forum and be willing to stick to the outcome. By increasing the quality, legitimacy, and impartiality of negotiated and mediated resolutions, and by stigmatizing certain types of bargaining (like threats or violence) and defection to other forums, we believe the intervention helped disputants cooperate and commit. To be sure, some of this was already taking place, which is why the majority of disputes get resolved in untreated communities. And communities were not suddenly pushed into a new and universally successful equilibrium, as many disputes remain unresolved. But this modest intervention was strong enough to push some dispute pairs into more satisfactory resolutions.

Some scope conditions are important: it undoubtedly helped that ADR echoed traditional dispute resolution. The decayed formal justice system also opened people to ADR. The intervention might be less effective in societies where formal institutions work better, or where mediation and negotiation are more alien. The number of weak states that are amenable to negotiated solutions is large enough that this paper offers important and general lessons.

We hesitate to conclude strongly in favor of advocate-centered, “push” theories of change. We would like to see longer-term data on these communities, and better measures of norm and skill change, before so concluding so strongly. Both are objectives of future research.

With so little hard evidence on sub-national norm diffusion, and almost none of it experimental, this also leads to the predictable demand for more research and evaluation, quantitative

and qualitative. Specifically, future field experiments would do well to directly test the theory and mechanisms, for instance by testing the effectiveness of a generic versus a more locally-adapted curriculum, by testing the effectiveness of pure education against more direct incentive- and institution-change, and (where particularly large sample sizes permit) by varying the intensity of the treatment to assess the dose-response relationship.

The stakes are high. Peacekeepers and governments are searching for transitional policies that provide the best possible resolution to disputes and mitigate violence. The hope is that these informal systems of justice promote stability, providing space for economic development and the strengthening of formal institutions. The importance of “good institutions” to poverty alleviation and peace is belied by the glaring absence of micro-level research, especially experimentation and experiments. Filling this gap ought to be among the first priorities of social science.

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Figure 1: Bounding exercise – Range of potential treatment effects on disputes between untrained residents given the different potential treatment effects on trained residents

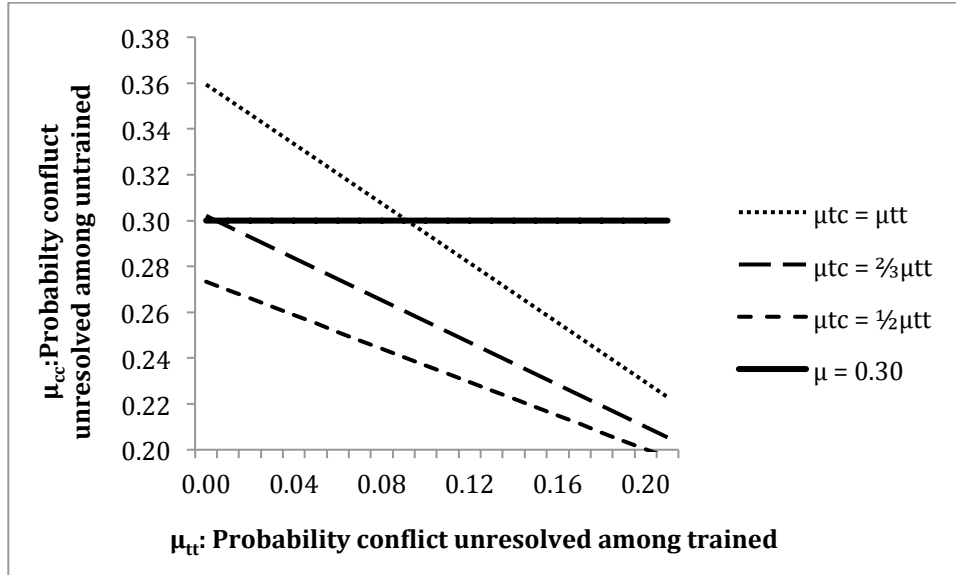


Table 1: Key outcomes

<i>A. Resident-level (including targeted)</i>	<i>Serious land dispute</i>		<i>Money/business dispute</i>	
	Mean	N	Mean	N
Any serious land dispute	22%	5,435	13%	5,435
Any unresolved dispute	6%	5,435	6%	5,435
Dispute results in violence, property destruction or threats	12%	5,435		
<i>Among residents with disputes:</i>				
<i>Other party</i>				
Within family	26%	1,212	23%	721
With neighbor/friend	39%	1,212	56%	721
With stranger	30%	1,212	20%	721
Other	4%	1,212	2%	721
<i>Resolution</i>				
Dispute resolved	71%	1,209	58%	721
Satisfied with outcome	60%	1,212	52%	721
<i>Resolution mechanism</i>				
Informal	20%	1,212	28%	721
Customary	36%	1,212	20%	721
Formal	8%	1,212	4%	721
Administrative	2%	1,212	0%	721
Other	4%	1,212	6%	721
No resolution	28%	1,212	42%	721
<i>Nature of conflict</i>				
Land dispute over land boundaries	39%	1,212		
Land dispute over land inheritance	10%	1,212		
Land dispute over land use	43%	1,212		
Land dispute over other issue	7%	1,212		
<i>Violent consequences</i>				
Threats of violence	50%	1,212		
Property destroyed	16%	1,212		
Violence occurred	33%	1,212		
<i>B. Town-level</i>	Mean	N		
Youth-elder disputes	28%	243		
Inter-family land disputes	47%	243		
Disputes with other towns	20%	243		
Peaceful strike or protest	7%	243		
Violent strike or inter-tribal dispute	4%	243		
Inter-tribal violence in town in 2010	2%	243		
Violent strike or protest in town in 2010	2%	243		
Witch killing or trial by ordeal	3%	243		
Trial by ordeal in town in 2010	3%	243		
Witch killing/beating in town in 2010	0.4%	243		
Rape or murder	11%	243		
Rape	7%	243		
Murder	6%	243		

Table 2: Impacts on land disputes (CACE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All residents			Residents with a dispute			
	Any serious land dispute	Land dispute results in violence	Any unresolved land dispute	Land dispute results in violence	Resolved land dispute	Resolved via informal mechanism	Satisfied with outcome
Community ever treated	0.005 [0.017]	-0.010 [0.012]	-0.020 [0.008]**	-0.028 [0.036]	0.080 [0.026]***	0.042 [0.024]*	0.065 [0.033]*
Concurrent treatment	0.034 [0.030]	0.018 [0.019]	0.003 [0.012]	0.027 [0.069]	0.038 [0.050]	-0.046 [0.057]	0.003 [0.062]
Mean, Control Group	0.221	0.122	0.0698	0.554	0.683	0.193	0.579
ATE as % of controls	2%	-8%	-28%	-5%	12%	22%	11%
Observations	5,411	5,411	5,411	1,210	1,207	1,210	1,210
R-squared	0.173	0.145	0.063	0.121	0.073	0.065	0.085

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 3: Heterogeneity in land dispute impacts

	(1)	(2)	(3)	(4)	(5)	(6)
	Any serious land dispute		Land dispute results in violence		Any unresolved land dispute	
Community ever treated	0.004 [0.016]	0.006 [0.017]	-0.010 [0.012]	-0.001 [0.012]	-0.020 [0.008]**	-0.010 [0.008]
Concurrent treatment	0.031 [0.031]	0.031 [0.031]	0.015 [0.019]	0.014 [0.019]	0.002 [0.012]	0.001 [0.012]
Treated × House or land taken during war		-0.011 [0.037]		-0.058 [0.032]*		-0.065 [0.028]**
House or land taken during war	0.345 [0.019]***	0.349 [0.025]***	0.251 [0.017]***	0.272 [0.022]***	0.128 [0.015]***	0.151 [0.020]***
Observations	5,411	5,411	5,411	5,411	5,411	5,411
R-squared	0.180	0.180	0.148	0.149	0.065	0.066

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 4: Impacts on property ownership and security

	(1)	(2)	(3)	(4)	(5)
	ln(Acres of farmland)	Owns land for business (if business-person)[§]	Owns/ planted trees[§]	House quality index (0-3)[§]	If has farm Believes household will have farm in 5 yrs
Community ever treated	-0.052 [0.045]	0.016 [0.028]	-0.050 [0.036]	-0.011 [0.042]	0.021 [0.016]
Concurrent treatment	-0.139 [0.079]*	0.008 [0.058]	0.023 [0.074]	0.063 [0.070]	-0.010 [0.034]
Mean, Control Group	1.236	0.213	0.834	0.871	0.759
ATE as % of controls	-4%	8%	-6%	-1%	3%
Observations	5,432	1,342	4,801	4,801	4,616
R-squared	0.138	0.061	0.174	0.260	0.042

§ Data from residents only. No targeted residents.

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 5: Impacts on interpersonal disputes

	(1)	(2)	(3)	(4)	(5)	(6)
	Disputes over money/business					Other disputes
	All residents		Residents with a dispute			All residents
	Any serious dispute	Any unresolved dispute	Resolved dispute	Resolved dispute via informal mechanism	Satisfied with outcome	Physical fights with others
Community ever treated	0.019 [0.013]	0.001 [0.008]	0.041 [0.042]	-0.000 [0.039]	0.049 [0.042]	0.016 [0.007]**
Concurrent treatment	0.010 [0.040]	0.005 [0.021]	0.020 [0.077]	-0.055 [0.071]	-0.113 [0.074]	-0.001 [0.014]
Mean, Control Group	0.126	0.0558	0.557	0.271	0.507	0.0504
ATE as % of controls	15%	2%	7%	0%	10%	31%
Observations	5,411	5,411	720	720	720	5,411
R-squared	0.069	0.033	0.099	0.092	0.095	0.047

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 6: Impacts on community-level violence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Inter-tribal violence in town in 2010	Violent strike or protest in town in 2010	Witch killing or trial by ordeal	Number of youth-elder disputes	Peaceful strike or protest	Number of inter-family land disputes	Number of conflicts with other towns
Community ever treated	-0.011 [0.017]	-0.013 [0.016]	0.043 [0.034]	0.170 [0.076]**	0.084 [0.040]**	-0.079 [0.181]	-0.028 [0.066]
Concurrent treatment	-0.035 [0.023]	-0.023 [0.021]	-0.082 [0.059]	0.441 [0.166]***	-0.102 [0.066]	0.008 [0.263]	0.134 [0.131]
Mean, Control Group	0.0318	0.0255	0.0191	0.242	0.0573	0.962	0.217
ATE as % of controls	-35%	-50%	223%	70%	147%	-8%	-13%
Observations	243	243	243	243	243	243	243
R-squared	0.199	0.145	0.201	0.242	0.179	0.306	0.165

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 7: Impacts on resolution norms & egalitarian attitudes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Would bring a money dispute to court§	Assertive mediation index§	Standardized index of women's rights attitudes	Standardized index of minority rights attitudes	Standardized index of ethnic tolerance	Standardized index of intermarriage acceptance	Standardized index of overall progressive attitudes
Community ever treated	-0.054 [0.022]**	0.031 [0.053]	-0.021 [0.039]	0.055 [0.041]	0.046 [0.035]	0.047 [0.020]**	0.063 [0.039]
Concurrent treatment	0.059 [0.048]	0.139 [0.113]	-0.057 [0.061]	-0.071 [0.071]	-0.103 [0.078]	-0.025 [0.036]	-0.110 [0.074]
Mean, Control Group ATE as % of controls	0.229 -24%	3.397 1%	0.0213	0.00378	-0.00838	1.645	-0.00163
Observations	1,567	1,567	5,411	5,411	5,411	5,411	5,411
R-squared	0.071	0.053	0.125	0.093	0.117	0.076	0.073

§ Data from targeted residents and leaders only. Remaining regressions are for targeted residents and residents alone.

IV regression using assigned to treatment (ever and concurrently) as instruments. Robust standard errors clustered by community.

*** p<0.01, ** p<0.05, * p<0.1

Omitted regressors include district indicators; demographics; town-level baseline conflict measures; and a targeted resident dummy.

Table 8: IV estimate of relation between months since intervention and dispute outcomes (Treatment group only)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Individual-level disputes							
	Any serious land dispute	Land dispute results in violence	Any unresolved land dispute	Interpersonal dispute over money	Any unresolved money dispute	Physical fights with others	Fight with weapons
Months since implementation	0.0027 [0.0015]*	0.0036 [0.0010]***	0.0006 [0.0006]	-0.0020 [0.0015]	-0.0001 [0.0010]	0.0008 [0.0008]	0.0009 [0.0005]*
Observations	1,893	1,893	1,893	1,893	1,893	1,893	1,893
Town-level events							
	Inter-tribal violence in town in 2010	Violent strike or protest in town in 2010	Number of youth-elder disputes	Peaceful strike or protest	Witch killing or trial by ordeal	Number of inter-family land disputes	Number of conflicts with other towns
Months since implementation	0.0033 [0.0019]*	-0.0005 [0.0011]	-0.0008 [0.0030]	-0.0190 [0.0104]*	-0.0002 [0.0038]	0.0552 [0.0197]***	-0.0108 [0.0071]
Observations	85	85	85	85	85	85	85

*** p<0.01, ** p<0.05, * p<0.1

2SLS IV regression with indicators for blocks 1 and 2 as instruments (first stage F-statistic = 226)

Omitted regressors include district indicators; demographic characteristics; town-level demographics and baseline conflict measures; and