

Community Driven Conflict Resolution: Evidence from a Randomized Controlled Trial in Ivory Coast

Prabin B. Khadka¹ Anup Phayal²

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(Working paper- please don't circulate)

Abstract

We exploit a United Nations funded randomized Community Driven Conflict Resolution (CDCR) project in 22 villages covering 63 communities in war-torn West Ivory Coast to assess its effectiveness in bringing social cohesion in divided communities. Key community members organized and participated in conflict resolution training workshops, devised community safety plans, and disseminated the knowledge to other members of the communities. We use behavioral games conducted in a lab-in-the-field setting, complemented by end line household surveys. We revisit the communities after 16 months to reevaluate the project sustainability. Though our findings indicate that CDCR projects help build social cohesion immediately after the completion of the project, our follow up survey 16 months later, indicates that in the absence of exogenous institutional mechanism, the initial gains tend to converge with the control communities. Our findings are consistent with how ethnic cleavages and identification patterns reinforce each other in the existence of ethnic conflict.

Keywords: Community driven, ethnic conflict, conflict management, lab-in-the-field, social capital, randomized control trial.

¹Lecturer, Department of Government, University of Essex. Email: prabin.khadka@essex.ac.uk. Corresponding author.

²Assistant Professor at the University of Wilmington, NC. Email: phayala@uncw.edu. We thank Pierre Lemelin, Senior Programme Manager, The United Nations Peacekeeping Mission in Ivory Coast (ONUCI) for granting us permission for this study.

1 Introduction

The cause of ethnic conflict has long been a topic of debate (Posen, 1993*a*; Huntington, 1997; Fearon and Laitin, 2003; Querol, 2002). Nevertheless, literature is scarce when we deal with how to resolve ethnic conflicts and the challenge of managing such conflicts continues to capture attention of both academics and practitioners alike. Scholars have argued for different measures to build sustainable peace and prevent the recurrence of ethnic conflict. Though the focus is at the macro level, recently there have been attempts by the donor community to start engaging at a local community level. A particularly new intervention in post conflict communities has been the Community Driven Development/Reconstruction (CDD/R) approach where reconstruction projects provide aid to communities through a community participatory process to bring back social cohesion in post conflict settings (Fearon, Humphreys and Weinstein, 2009; King, Samii and Snilstveit, 2010; Humphreys, De La Sierra and Van Der Windt, 2012*a*; Avdeenko and Gilligan, 2015; Humphreys, de la Sierra and Van der Windt, 2019).

Yet, it is surprising that the literature on CDD is only surfacing compared to the expenditure on CDD projects worldwide,¹ and our understanding of the mechanisms and outcomes of CDD projects, therefore, is limited. Avdeenko and Gilligan (2015), for example, question this approach and argue that externally implemented community-level projects do not necessarily build trust and pro-social norms among community members. Humphreys, de la Sierra and Van der Windt (2019) study the impacts of a large RCT community-driven reconstruction (CDR) program implemented in Eastern DRC and find that little evidence that the socio-political attitudes and behaviors of populations changed. Casey, Glennerster and Miguel (2013), in their prominent study of the World Bank funded GoFibo project, find that the treated communities exhibited higher number of better quality local public goods than in control communities but find no evidence that GoBifo enhanced community members

¹The World Bank alone spends over US\$ 2 billion on CDD (Mansuri and Rao, 2012). Other big bilateral donors such as USAID, DIFID and JIICA also spend millions of dollars. These organizations highlight their recent involvement on CDDs in their websites.

capacity to design and implement strategic development plans.

Are similar community driven approach programs but focused, in particular, on conflict resolution (CDCR) to bring social cohesion in war- torn communities effective? Can social cohesion be achieved as a result of long and interactive indigenous mechanism targeting a much wider audience? In this attempt, Blattman, Hartman and Blair (2014) study how alternative dispute resolution (ADR) intervention in Liberian communities help solve land disputes where as Cilliers, Dube and Siddiqi (2016) study how targeted, person to person forgiveness projects influence individual and societal healing.

The focus of this research is whether a micro-level CDCR is a solution to achieve peace among divided ethnic groups in post conflict war torn communities.² We evaluate the effects of CDCR projects on ethnic cohesion using a UN funded randomized control trial CDCR project in 22 villages (11 treated and 11 control) in Western Ivory Coast from 2013-2014. The 22 villages were divided into 63 communities, where 11 villages comprising of 29 communities were randomly selected for project intervention. These communities received four major treatment interventions: formation of the Community Working Safety Groups (CWSG) from selected volunteers, conflict resolution training workshops provided directly to CWSG, development of Community Safety Plans (CSPs) as the end-result of the workshop and, an immediate dissemination of CSPs to the rest of the community members. The end result was that, almost 1967 beneficiaries underwent conflict management training, 3913 beneficiaries took small arms sensitization education, and an additional 2256 children were targeted on fire arms hazard education. Participating populations then put these ideas into practice by selecting a development project for the village and electing a management committee that managed project funds.

We examine the effect of this intervention on behavioral changes among individuals in treatment communities using three approaches. First, we analyze the survey administered immediately at the end of the project implementation in both treatment and control commu-

²For example see the United Nations Development Project (UNDP)'s website to see their recent approach of using CDD framework for Armed Violence Reduction (AVR) Projects.

nities. Second, we use behavioral games conducted in a lab-in-field setting with a separate sample from the same communities and compare the results with that of the end-line survey. Third, we pursue a follow up study by visiting the communities after 16 months to reassess the social cohesion level using survey instruments identical to the end-line survey taken immediately after the project completion.

Though our initial findings indicate that CDCR projects help reduce ethnic violence immediately after the completion of the project, our follow up survey after 16 months, indicate that in absence of continued external monitoring to build on the initial gains, social cohesion among treated communities tend to slide back and converge with the control communities. we present, in particular suggestive evidence that in the absence of an external third party monitoring mechanism, rival ethnic groups converge to a social cohesion equilibrium, mostly driven by the group that was strongly motivated to cooperate but in the absence of reciprocity this group also converges to levels of social cohesion as that of the rival group. As identified by Humphreys, de la Sierra and Van der Windt (2019), we conclude that when communities divided along ethnic cleavages don't see any long term benefits from having new external settings for dispute resolutions, such settings, because they are exogenous, can do little to promote social cohesion. As we argue at length in our discussion section, future research should continue to assess, rather than assume, how social cohesion can extend beyond one's immediate social circles and in-group members.

This paper has three unique attributes. The study is one of the very ones on CDCR where the intervention's sole aim is to achieve social cohesion in divided communities immediately after the cessation of hostilities. In post-conflict situations, CDCR tends to differ from CDD especially in terms of timing. CDCR projects are sequenced in the stabilization phase, immediately after the former belligerent groups sign peace agreements, so that communities can shed their hostilities once peace ensues. CDD projects are, however, held much later with the objective of achieving sustainable growth. Much that has been written about CDD are indeed about strengths and weaknesses of community based "*development*" or

“*reconstruction*” projects. These CDD projects, though community driven, involve only a few members from the targeted community which has a population of at least a few thousand.³ CDCR, therefore, has a much focused approach to build cohesion and cooperation among communities that were divided because of the past conflict.

Second, the originality of our study hinges on the inter-ethnic framework in which it is run since most of the previously mentioned studies are with subjects interacting with members of the same ethnic group (Gilligan, Pasquale and Samii, 2014). While most recent empirical studies strongly support that violence builds social capital, our attempt is to improve upon this by focusing on the impact of violence against out groups. Political violence hardens negative inter-group attitudes through numerous channels (Beber, Roessler and Scacco, 2014). Fear of violence can heighten in-group association or incite hostile attitudes toward outgroups (Beber, Roessler, and Scacco 2014; Berrebi and Klor 2008; Cassar, Grosjean, and Whitt 2013), attitudes which in turn can shape inter-group behavior in post conflict communities (Nalepa, 2012). In particular, our focus is on the conditions under which ethnic cohesion in the form of reciprocity may survive and spread over as social norms.

Third, our attempt is to measure the effect of CDCR project over time. In the CDD literature, we are less clear about the longevity of the initial gains in social capital. This paper builds on the current debate of the effectiveness of CDD projects and invites scholars to rethink how the timing when measuring “social capital” in post-conflict societies can impact outcomes. We believe some of the empirical shortcomings of current CDD research stem from a measurement problem related to lack of data (Abascal and Baldassarri, 2015).⁴ We use two measurement strategies to capture our outcomes of interest –social capital, something rare in previous CDD literature. We use two end-line surveys and additionally conduct behavioral games. To our knowledge, use of cross sectional data is limited in the community

³For example, in the Tuungane program that Humphreys, De La Sierra and Van der Windt (2012b) study each village committee was granted a block grant of \$1,000

⁴Although there are two well known long term follow up studies, our innovation is that this is the first that is related to conflict resolution and not development or reconstruction projects. We are aware that use of different subsets might limit the scope for validation, our follow up was with subjects from the same communities that received direct treatment.

approach literature and an important contribution, since measuring the project impact over time allows us to examine the sustainability of such projects. The remainder of the paper proceeds as follows. We start by discussing what CDCR is, and present our hypotheses on CDCR and social cohesion. We then describe the CDCR intervention in West Ivory Coast, and subsequently present the experimental design, data, findings and analysis.

2 CDCR and Social Cohesion in Divided Communities

Societies, divided along ethnic lines, lack mutual trust which during conflict leads to heightened security dilemma Posen (1993*b*). Divided groups are more likely to avoid activities of interactions, fearing that encounters may escalate into full blown conflicts. Thus, distrust and lack of interaction results in in-group bonding and out-group hostility. Garfinkel and Skaperdas (2007, p. 680) explain theoretically that once groups get trapped into hostility and armed conflict, they are always better off choosing to fight rather than consenting for peace. They lack information regarding the true intention of the other group and if one of the group chooses peace, it becomes worse off if the second group does not reciprocate. In addition, the first group is also unaware about the cost of war for the second group—how much cost is it willing to bear (Slantchev, 2003). In other words, from a rational standpoint, lack of information about the second group’s commitment to peace and its capability, the first group is always better off avoiding the peaceful route. Therefore, once the conflict breaks out, both groups remain stuck in the “conflict trap.”

Surprisingly only a handful of studies have examined the effect of external intervention through community engagement on social cohesion in post-conflict context. Rather than focusing specifically on conflict resolution, however, these works focus either on the impact of development projects in general, or on outcomes such as social capital or social norms that often takes longer time to surface. Fearon, Humphreys and Weinstein (2009), for instance, find that outside interventions through CDD projects in Liberia increased the level of social

cooperation among individuals. Explaining the mechanism, the authors emphasize that quick impact projects and “marginalized” projects at community level encourage community engagements and provide incentives for leaders to build networks and mobilize men and women across social cleavages. Interestingly, Avdeenko and Gilligan (2015), do not find any evidence that CDD projects increase social capital in Sudan. Similarly, Humphreys, de la Sierra and Van der Windt (2019) in arguably the most comprehensive RCT designed CD reconstruction study so far find that no evidence of impact on governance practices in rural villages in the eastern Congo.

Compared to these CD approach of participatory development, is it possible that CDCR projects that are more focused in bringing inter-ethnic communities together are more effective in building social cohesion in war torn societies? In communities engaged in ethnic hostility, a CDCR setting indeed provides a platform for these divided communities to work together, thereby helping to overcome existing prejudices and start a reconciliation process (Blattman, Hartman and Blair, 2014).

We further find theoretical insight from two strands of literature on why deliberately designed CDCR projects may facilitate social cohesion. The socio-psychological literature posits that contact between former rival groups reduces prejudice. The mechanism can be explained by “contact hypothesis,” a theory that has been popular in social psychology literature since 1950s. First proposed by Allport Gordon (1954), the theory states that four types of contact conditions generate positive effects: common goals; inter-group cooperation; equal group status within the situation; and the support of authorities, law, or custom. The first three among these are directly applicable to CDCR projects, which we discuss more elaborately in the following section. More recent psychological work further suggest that four interrelated processes operate through contact to result in attitudinal change: learning about the out-group, changing behavior to confront new situations, generating effective ties by reducing anxiety about out-groups, and in-group reappraisal as individuals learn that ingroup norms are not the only ways to manage social world (Pettigrew, 1998, p. 70).

On the other hand the conflict theory, however, argues that inter-group hostility is the result of competition for scarce resources where perception of relative group size gives rise to violence between in-group and out-group. The stereotypes that foster as a result of such perceptions drives dominant group members against subordinate groups (Sherif, 2010). Since prejudice between rival ethnic groups are mostly characterized by historical and institutionalized inequality, even modern day contact theorists acknowledge that contact only reduces inter-ethnic hostilities under specific conditions (Scacco and Warren, 2018; Condra and Linardi, 2019). Unfortunately these conditions, such as equal status and repeated, intimate interactions between such groups are difficult if not impossible to achieve in the real world (Pettigrew, 1998). Sociology literature bears light beyond prejudice in understanding individual and collective dynamics especially in light of relative group size looking at how dominant group members react with subordinative members.⁵

In summary, we can expect two opposing outcomes through CDCR projects in war torn societies. On the one hand, in post conflict scenarios, when rival groups are brought together, for example in a CDCR setting, they may feel ready to restore fractured relationships. When such groups start interacting with former rival groups that they were previously hostile to, the expectation is that it creates favorable moments to establish broader networks. This opportunity to interact with rival groups opens up prospects to participate in a wider range of community based activities together. These activities arising from such networks then lead to the expansion of social networks and increase in pro-social behavior similar to the foundational concept of Putnam (2001)'s social capital. Thus, the implied prediction under this view is that pro-longed community driven conflict management efforts for reconciliation will improve relations between previously divided ethnic groups as measured by broader social networks and greater pro-community behavior of such groups.

On the other hand, during extreme forms of competitions such as conflict, inter-group contact might favor prosociality toward in-group members and the derogation of the out-

⁵For a review on this, see Abascal and Baldassarri (2015).

group (Rohner, Thoenig and Zilibotti, 2013). The prediction thus is while a CDCR setting might enhance peace building, it will simultaneously enhance intra-group cooperation and raise the risk of renewed inter-group distrust. Inter-ethnic violence may have hardened ethnic boundaries almost irreversibly, making any attempts of cooperation between groups difficult, if not impossible.

3 Community Driven Conflict Resolution (CDCR) in West Ivory Coast

The West African state of Ivory Coast is currently emerging from more than a decade of armed conflict and political instability that began in September 2002 when a group of soldiers mutinied to oust former president Laurent Gbagbo. The ensuing crisis pitted the Forces Armee des Forces Nouvelles (FAFN) rebel movement, which eventually gained control of the north of the country, against the government, which retained the control of the south. The seeds of ethnic tension that began between Christian dominated southerners, who prided to be the true “Ivorites” and Muslim dominated northerners aligned with foreign settlers, re-surfaced in November 2010 when the incumbent Gbagbo disputed the election results and refused to step down and hand power to the winner Outtara, a candidate from the North (Chirot, 2006, 68).⁶ Though the second Ivorian Civil war was relatively short, most battles were concentrated in the western part of the country where ethnic tensions turned into violent clashes. An estimated 3,000 died and a further 750,000 displaced internally because of the inter-communal violence and gross human rights violations Duval (2010). The military crisis largely ended when FAFN marched to the economic capital, Abidjan, in the south and successfully seized president Gbagbo on 11 April 2011. Despite Gbagbo’s capture and, Outtara’s ascend to power, armed violence continued in western Ivory Coast, as mercenaries, militias, and other combatants loyal to the former regime retreated to Liberia.

⁶For a detail study on the Ivorian crises see (International Crisis Group, 2012).

Although overall security situation has improved after Outtara became the President, the security situation in the western part of the country, including the border areas, continues to remain volatile. In particular, two problems contribute to aggravate the ethnic tensions in the communities. First, the proliferation and misuse of weapons fueled insecurity among individuals. During the crisis years, government administrative properties were destroyed and the capacity of security providers plummeted, leading to significant amount of arms theft from defense forces. In 2002, for instance, the civil war broke out after rebels attacked and looted military installations in Abidjan, Bouake and Korhogo.⁷ Similar attacks on military installations also occurred in 2006 (Chirot, 2006, 74). The availability of small arms and light weapons continue to pose a significant threat to the stability of the area. Because of the slow re-establishment of public officials and local police in rural areas, civilians continued being subjected to attacks by armed groups.⁸

Second, the current land tenure system has the “Ivorites” pitted against the rest.⁹ The land disputes frequently witnessed in the region dates back to post-colonial days when domestic and foreign cheap labors arrived in waves mostly to work the cocoa and coffee plantations located mainly in the fertile regions of west Ivory coast. This has led to mistrust and cleavage not only among the elites and militant groups but also along the local community members. Additionally many Gbagbo supporters who fled to Liberia from their communities during the 2011 crisis have returned and exacerbating tensions between community members and the returnees on the issue of land claims.

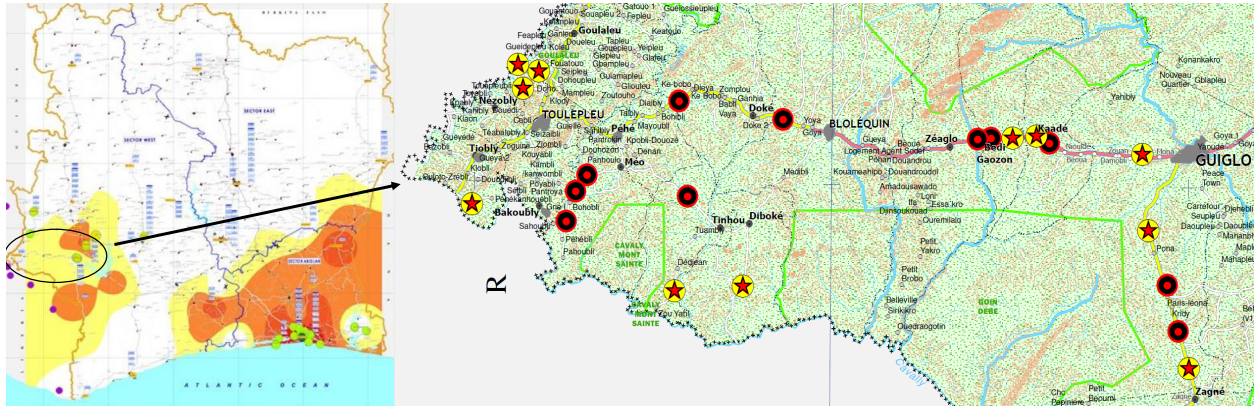
Given this context, the UN in 2013, funded an INGO to carry out a CDCR project in

⁷See UN Security council’s report S/2003/374, March 26, 2003.

⁸On March 5 2014, armed Ivorian rebels based in Liberia crossed into Ivory Coast and attacked a FRCI (Ivorian Army) remote outpost killing four Ivorian soldiers. The rebels further proceeded to Grabo a border town and attacked the United Nations’ (ONUCI) peacekeeping out-post.

⁹West Ivory Coast is the main producer of cocoa, wood and coffee and is therefore a major hub for commerce attracting workers not just from Ivory Coast but from the region. It is inhabited by three distinct ethnic groups -the indigenous are known as the “Autochtone”. The second group “Allochtone”, are non-indigenous who migrated from other parts of the country to work in the plantation industry most of whom ultimately settled there. And, the “Allogene” comprising of immigrants especially Guineans, Malians and Burkinavis who were brought for rubber plantation but have since settled. These two groups are grouped together as the “settler” community against the indigenous. Field Notes(2014).

Figure 1: Left Map is of the Intensity of Active Armed Groups. Right Map is RCT Intervention Region.



Note: Left map depicting regions with active armed groups post 2011 crises across Ivory Coast. Right map is the blow up of south west quadrant where the RCT intervention took place. Stars in yellow are treated and circles in black are control communities clustered in 22 villages. Ivory Coast is divided into 31 regions which in turn consists of 108 departments. Cavally, one of the 31 regions, lies in the West along the Liberian border and was the most affected region during the last 2012 Ivorian crisis. Cavally region has four departments namely Blelequeo, Guiglo, Toleupleu and Tai out of which the first three were targeted for intervention as Tai region is mostly covered by Tai National Park. The total population in the intervention area is approximately 16,500.

west Ivory Coast to reduce armed violence among different ethnic groups and improve social cohesion. Another reason why the west was chosen, in addition to this region being prone to ethnic tensions, was to overcome challenges resulting from a large and geographical dispersed sample. Figure 1, shows the RCT intervention area in western Ivory Coast.

The aim of the CDCR project was to empower the communities so that they have improved knowledge of the threats and risks faced by the population in target areas and increase participation by community members to counteract safety problems. The main activities implemented during the project time-frame included facilitating the development of Community Safety Plans (CSP)s in the targeted communities and the subsequent delivery of Conflict Management Education (CME) to strengthen community capacity to manage inter-personal and inter-community conflict thereby reducing ethnic tension. The expectation was that this leads to an improved conflict management capacity thereby reducing number of conflicts in target communities, decreasing number of fire arms related incidents and also enhancing

security provision through improved trust and cooperation between security providers and communities on conflict resolution.¹⁰

4 Evaluation Design and Empirical Strategy

The project intervention started off with meetings with village chiefs, ethnic leaders, religious elders and local government authorities to solicit their cooperation since this was to be a RCT and not all 22 villages would be selected.¹¹ The 22 villages comprised of 63 communities which were pooled for a lottery draw in the presence of officials representing all three departments. From the random draw, 11 villages were chosen for project implementation and the next set of 11 villages would remain in the control group. Though the CDCR intervened at the community level, the randomization, done through a lottery, happened at the 22 village level.¹² The unit of analysis in this study are individuals in 63 communities.

The baseline data, a survey at the individual household level comprising of 877 individuals, was collected only in all treatment communities but due to budget constraints no baseline data at the individual level was conducted in the control communities. However, a baseline data at the community level was collected in all 63 communities prior to the lottery draw to gather information related to the most pressing issues related to inter-ethnic conflict. Table A1 in the appendix presents regression output of our 63 treatment and control communities. We notice that only efforts related to building social cohesion (column 5) is higher in treated communities by 0.17 unit ($p < 0.10$). A2 are results pre-treatment but by the two opposing ethnic groups and we immediately notice that the indigenous communities report higher ethnic conflict by 0.22 units than the settler communities ($p < 0.05$). We discuss our pre-treatment community level baseline findings in detail in our discussion section.

¹⁰See appendix for a detail description of the CDCR project intervention.

¹¹See appendix how these 22 villages were selected.

¹²Since each village had on average 3 clustered communities, divided a few hundred meters apart from each other along ethnic lines, our treatment was intended to measure the project impact between these communities in each village. Hence randomization at the 63 communities level from a measurement perspective was not possible.

For our outcome of interest, social cohesion post intervention, we use three different data sets. For the initial analysis, we use the UN endline survey data collected by the INGO that implemented the project. However, the surveys had two constraints. First, surveys did not cover all 63 communities due to the 2014 Ebola epidemic. The INGO stopped surveys in September 2014 after completing nine treated and six control villages due to the Ebola outbreak in neighboring Liberia and Guinea. All departments bordering Liberia, where all the treatment and control villages are located were isolated and quarantined by the Ivorian Government.¹³ Second, the surveys were conducted by the same INGO that implemented the project. While the survey enumerators were different than the project facilitators, there is still a room to doubt that respondents would be biased to provide choices desirable to enumerators as they were fully aware that the enumerators were affiliated with the project.

We therefore ran four sets of behavioral games, from July to Sept 2014, as our primary instrument to measure social cohesion between divided communities. We followed Gilligan, Pasquale and Samii (2014) in choosing games to measure our main dependent variable —level of social cohesion among our subjects. We conducted four games to measure four pro-social norms: (1) altruism, (2) willingness to share with the needy, (3) trust in one’s community members, and (4) trustworthiness with other community members. We conducted one session each with 12 subjects, for a total sample of 216 subjects, in nine treated and nine control villages covering a total of 51 communities.¹⁴ Since players could be assigned from any other group as partners in the game, we expected that our subjects’ behavior in such mixed games representing different sides of the conflict cleavage, would give us much more reliable measures of the subjects’ levels of altruism, trust and obligation toward each other.¹⁵ At the end of the four games, each subject was asked to fill out a one page survey. Total payouts

¹³These quarantines were strictly enforced because of which Ivory Coast did not witness a single outbreak despite all its three neighbors Liberia, Guinea and Mali being affected by the Ebola outbreak.

¹⁴Because of the Ebola outbreak in neighboring Liberia, we could only finish 51 out of the total 63 communities.

¹⁵The community chiefs in each village chief called this gathering in front of the game enumerators, by sending 3-4 young men to all three ethnic communities in each village to gather a pool of subjects from which one final random sample of 12 was chosen.

from all the four games were aggregated and given as one lump sum at the end when the subject handed back the survey sheet. The average payout was about CFA 1200 (US\$ 2.8), corresponding to the mean wage per hour which is US\$1.05 as each session on average took us 2.5 hours.

Each session started with a risk game to measure each participant’s attitude toward risk—a potential problem that we want to control. We wanted to ensure if risk takers have greater willingness to gamble on the cooperative behavior of other players (Schechter, 2007). Each subject had one choice to make among five lotteries with two possible outcomes. The outcome of the chosen lottery was decided by the subject flipping a coin. The expected value of all five lotteries was CFA 200 but the level of risk increased as the lottery number increased.¹⁶ 37% of the players chose no or low-risk options (lotteries 1 or 2), another 30% chose lottery 3 which guaranteed 100CFA at least half of what they would have received had they chosen lottery 1, and the remaining 33% chose higher numbers 4 and 5.

In our second game for measuring altruism each subject’s willingness to share with the needy, we had the subjects play a simple dictator game where each were given 200CFA in eight 25CFA coins. Subjects were then asked to decide how much of the total 200CFA, if any, they were willing to donate to an anonymous needy family from their own community. Each subject was asked to come to a separate area away from the group where they were shown 200CFA in eight 25 CFA coins on a side of a white cardboard with a line in the middle. Each subject was then asked to push the amount they wished to donate to the needy family across the line to the empty side. They would receive the remaining amount. Overall, 80% of the subjects gave half or less of the 200CFA to the needy family with 33% giving exactly half of the amount.

For our third game to measure trust and trustworthiness, we used Berg, Dickhaut and McCabe (1995)’s standard trust game which is played in two rounds. In the first round all

¹⁶The first lottery was “risk free” with players receiving CFA 200 regardless of the coin flip where as the highest lottery number choice 5 would have the players receive CFA 400 with a head flip versus CFA 0 for a tail flip, for a variance in the payoff of CFA 40,000. Those that are risk averse should choose lower numbers versus risk takers who should choose higher numbers.

12 subjects were asked to draw a number 1-12 from a hat. Even numbers were designated as “senders” and odds as “receivers” and were paired with someone from the opposite group. Both the groups were given an initial amount of 200 CFAs in eight 25 CFA coins. Senders were asked to send counts of 25CFA coins they wanted to send to the receivers and they were aware that we would add to their contribution so that receivers got exactly three times the amount they sent. The remainder amount in this game was for the senders to keep. Receivers did not participate in the first round but in the second round of the game, receivers were called one by one to a separate area and were given the tripled amount sent by their respective pairs and their initial 200 CFA. Receivers were then asked to push the amount of money they wished to send back to the same pairs from the “sender group” who had initially sent them the money. The senders did not participate in this second round. The mean of the amount sent by the receivers was about 93CFA and about 76% of the senders sent half or less. For the second part of this game, the mean amount returned was 190CFA and only 48% of the receivers sent back 200CFA or more, 200CFA being the maximum amount the sender could have sent in the first round.

For our final game, we used dichotomous public goods games as Barrett and Kurzban (2006). In this two-round game each subject received two folded cards with one empty and the other card with a large “X” marked on it. In the first round each subject was asked to hand back one of their cards. For every “X” card turned in, every person in the group received 25CFA. In the second round, all subjects were asked to hand in their remaining card. However, if a subject handed a “X” card in the second round, then the subject was given an extra 100 CFA in addition to the amount the subject was to receive determined by the number of “X” cards turned in during the first round of play. For eg. if a subject turned in a blank card in the second round, then he/she received only the 25CFA per “X” card handed by her group in the first round. Overall, about 84% of the subjects contributed to the collective good.

In Table C5, we present the summary statistics of the different covariates our subjects and

the communities along with the outcomes from the four games. We note several interesting patterns among the players. Around 65% of the subjects in both treatment and control communities were males. Employment and literacy rates in the sample are between 70-80% similar to the national average. Approximately 40% of all the players are Christians, which is the dominant religion in the area and similar to the national census. In terms of ethnicity, the indigenous group in the sample make up almost 50% of the total, whereas the other two groups, other Ivorians and foreigners, make up the other half. This ethnic distribution is consistent with the distribution across population according to the available census data.

Our primary measurement strategy aims at evaluating whether inter-ethnic group interaction affects the behaviour across the two groups –settlers and indigenous– who were pitted against each other during the Ivorian War. We use behavioral games to estimate the causal effect of our treatment using ordinary least squares:

$$Y_{ic} = \beta_0 + \beta_1 T_{ic} + \epsilon_{ic} \dots \dots \dots (1)$$

where Y_{ic} denotes the outcome at endline, for individual i in community c . T_{ic} is assignment to treatment, β_1 measures the treatment effect, and ϵ_{ic} is the individual level error term. In all of our specifications, we fit the model using ordinary least squares to get at SATE and cluster the standard errors at the village level, the primary sampling unit of our treatment allocation.¹⁷

¹⁷Standard errors are clustered at at the village level to address concerns associated with village level using the wild bootstrap method (Cameron, Gelbach and Miller, 2008). This is to account for the low number of clusters in regressions, which could otherwise lead to understatement of true standard errors. For the games data, we could not get an ideal random sample and had to rely on the village chief to gather a large group from which we randomly selected 12 subjects. Ideally we wanted to carry out a weighted analyses to get at PATE to account for differences between our sample and the actual population distribution but due to lack of actual census data, this was not possible.

5 Main Results

We look at estimates for the average treatment effect on the level of social cohesion among individuals in three separate results.

Table 1: **End-line Survey Results-Immediately After Intervention**

	(1) Absence of Ethnic Conflict	(2) Absence of Armed Violence	(3) Satisfied with Dispute Resolution	(4) Social Cohesion Index
Treatment	1.05* (0.00)	1.29* (0.00)	0.74* (0.00)	1.81* (0.00)
Baseline (Control)	1.83* (0.00)	1.65* (0.00)	1.27* (0.00)	-1.31* (0.00)
Observations	1493	1484	1490	1489
R^2	0.52	0.75	0.48	0.65

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 15 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 1-3. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

Table 1, presents results from the first endline survey on the relationship between treatment and control communities the different variables of interest in our study. The table above shows the analysis of first endline survey, immediately after the implementation of community driven conflict resolution project. The coefficients are the average effect of treatment on ethnic conflict(1), armed violence reduction (2), dispute resolution mechanism (3) as reported by individuals randomly selected from treatment and control communities.

For models 1 and 2, dependent variables “change in ethnic conflict” and “armed violence level within the community” is coded as 1 to 3, corresponding to responses that ethnic conflict and armed violence within community has become “worse,” “has not changed,” or “become better” in the last 12 months. For model 3, variable “state of dispute resolution mechanism” within community is coded as 1 to 3 corresponding to respondents’ choice that it has “not improved,” “somewhat improved,” and “improved a lot.” Individual responses from each of the three questions are aggregated and developed into a “social cohesion” index for which we use Anderson (2008)’s index constructed using inverse covariance weighting, in order to address concerns related to multiple endpoints. All the three variables of interest

and, the social cohesion index, show highly positive effects of the project on the communities with social cohesion index higher by 1.82 s.d. in treated communities (< 0.05).

Table 2: **End-line Game Results-Immediately After Intervention**

	(1) Lottery Risk	(2) Dictator	(3) Cooperate	(4) Trust Sent	(5) Trust Return	(6) Social Index
Treated	0.21 (0.36)	16.90 (0.11)	0.14* (0.02)	15.83 (0.16)	-0.00 (1.00)	0.37* (0.00)
Baseline (Control)	2.86* (0.00)	80.32* (0.00)	0.77* (0.00)	85.19* (0.00)	0.40* (0.00)	-0.18 (0.08)
Observations	216	216	216	108	108	216
R^2	0.01	0.04	0.04	0.04	0.00	0.03

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 18 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

Table 2 presents our second results from the four behavioral games. Overall, we find that the treatment variable is statistically significant in all columns except the first and the fifth. Column 1 shows that the difference in risk seeking behavior between members of treatment and control communities is not statistically significant and therefore exposure to treatment does not seem to change their risk-taking preferences significantly. Column 2 suggests that on average, the amount sent in the dictator game increases by 21% among individuals in the treatment group.

Column 3 shows the result of cooperation game. We find that individuals in treatment communities are 18% points more likely to cooperate, increasing from the baseline of 77% to 95%. Similarly, column 4 and 5 are results for the trust game. The coefficient in column 4 shows that on average, individuals in treatment group sent amount that was 18.5% more than their counterparts in control group. This shows the higher levels of reciprocity and trust among individuals in the treatment group. In column 5, however, we do not find statistically significant difference among the two groups. Only the first part in the trust game is statistically significant, the reason for which we will probe in the later section. The social index results in column 6 suggests that treatment increases propensity of social cohesion by 0.35th. of a s.d. We find that results are identical in direction and magnitude when adding

controls which we see in Table C6 in the appendix.¹⁸ Since our subjects are divided between the settlers who are northerners and predominantly Muslims and the indigenous who are southerners and Christians, one thing worth highlighting is that neither the ethnicity nor the religion dummy in Table C6 affects our results.

A novel part in our design compared to other similar research is the inclusion of hostile ethnic group members in the experiment. In a meta-analysis, Bauer et al. (2016) find evidence of prosocial behavior increasing among those exposed to wartime violence. For example, a similar field experiment conducted in Nepal, Gilligan, Pasquale and Samii (2014) find similar and a slightly higher level of social cohesion index among people exposed to violence. Our study builds on this since it is capturing the effects between groups in conflicts. In our design subjects were aware that the anonymous recipients in the games also included individuals from hostile ethnic groups. Our design, unlike many previous studies, is able to answer how the project intervention impacted the two ethnic groups. In particular, are the results we see in Table 2 driven by one group or both the groups?

Table 3 shows results dis-aggregated by –settlers and indigenous– the two rival ethnic groups. We notice that while the indigenous sent more money in the trust game (column 4), the social cohesion index is not statistically significant. When looking at the results for the settlers we find that the effect of treated settlers on average increased the social cohesion index significantly by 0.65th. of a s.d. than those settlers not treated. Note the negative alpha or the baseline value in column 6, which suggests the substantive shift in our social cohesion index among treatment group compared to the baseline. We acknowledge that our design does not capture single group only results. For example, additional sessions where only subjects from one ethnic group interacted in game sessions, would have captured effects which would tell us how exposure to in-group would have differed with exposure to out-group. We discuss the possible mechanisms as to why we see settlers driving our results in detail in the discussion section.

¹⁸One thing worth mentioning here is that there is a strong correlation between the first survey and games results.

Table 3: **Game Results Dis-aggregated by the two Ethnic Groups**

	(1)	(2)	(3)	(4)	(5)	(6)
	Lottery Risk	Dictator	Cooperate	Trust Sent	Trust Return	Social Index
Panel A: Indigenous						
Treated	0.12	15.86	-0.02	25.27*	-0.00	0.05
	(0.66)	(0.13)	(0.70)	(0.03)	(0.99)	(0.69)
Baseline (Control)	2.92*	81.41*	0.90*	80.26*	0.40*	0.02
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.80)
Observations	103	103	103	47	56	103
R^2	0.00	0.04	0.00	0.10	0.00	0.00
Panel B: Settlers						
Treated	0.29	17.45	0.26*	8.30	0.01	0.65*
	(0.27)	(0.19)	(0.01)	(0.59)	(0.81)	(0.01)
Baseline (Control)	2.83*	79.71*	0.70*	87.86*	0.41*	-0.30
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.06)
Observations	113	113	113	61	52	113
R^2	0.01	0.04	0.10	0.01	0.00	0.09

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 18 villages. Controls include village population, distance to regional hq., age, gender, education, employment and religion. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

Did the CDCR project create ethnic cohesion which in turn helped the project achieve its desired outcomes? Results from the endline survey and the games show that the treated communities demonstrated much higher level of social capital and ethnic cohesion. When comparing the two results, it is possible that the large effect seen in the endline survey is the additional effect of desirability bias among respondents as discussed earlier. The UN in Ivory Coast is a major donor and when asked directly about the project outcome, individuals in the survey might have responded in ways that would please the donor to directly influence new project opportunities. But results from games confirm the survey findings that individuals in the treatment group are more socially cohesive compared to those in control group. This shows the positive influence of CDCR project on social cohesion, at least in the short run.

6 Social Cohesion and Sustainability

Our game results and the first end-line survey both indicate that the CDCR project had a positive effect on social ethnic cohesion among those treated. However, our primary

theoretical interest is –do we continue to see the ethnic cohesion in treated communities even after the treatment stops? Our predication was that there could be two mechanisms ongoing. First, social cohesion in treated communities could continue to grow even after the end of the CDCR project. Once the externally induced treatment breaks the initial distrust among formerly hostile ethnic groups in the treated communities, they could potentially continue reaping the benefits of the interaction and the subsequent result –peace. The expectation here was that we would see a widening difference in the ethnic cohesion level over time between our treatment and control communities. Alternatively, the second path could be that the effect of such one-time treatment could wane over time. In other words, in absence of externally backed institutional mechanism to replace the CDCR project, the effect of the treatment could slowly decay over time. If the latter is true, then our expectation is that the level of ethnic cohesion in both treatment and control communities converges at a certain point.

To investigate these two alternative mechanisms of sustainability, we revisited the project site in August 2015, approximately 16 months after the CDCR project had ended the intervention. We conducted another round of randomized survey at the household level in all 63 treated and control communities. Additionally we wanted to cover all 22 villages which both the first survey and the games could not. We used the same survey questions used by the CDCR project during their endline to omit any discrepancies between the two surveys but also added a few more questions. One question which was added was whether the respondents came in contact with similar project interventions by other aid agencies or the Ivorian government as this was a major concern for us since this could confound the treatment effect. On average each survey lasted 30 minutes. Our summary stats (Table D7) show that individual demographics of subjects are balanced across the two groups.

In order to determine the impact of the treatment effect over time, we re-run the exact specifications as Table 1 -our first survey. The results in Table 4, after 16 months, show the treatment effect is no longer statistically significant and only the level of ethnic conflict

Table 4: **Final Survey Results-After 16 months by Treatment**

	(1) Absence of Ethnic Conflict	(2) Absence of Armed Violence	(3) Satisfied with Dispute Resolution	(4) Social Cohesion Index
Treatment	0.13 (0.10)	-0.01 (0.92)	0.00 (1.00)	0.13 (0.49)
Observations	437	432	432	432
R^2	0.01	0.00	0.00	0.00
Baseline (No intervention)	3.95* (0.00)	3.80* (0.00)	3.80* (0.00)	-0.07 (0.58)

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 22 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

Table 5: **Post 16 months Survey Results-Settlers versus Indigenous**

	(1) Absence of Ethnic Conflict	(2) Absence of Armed Violence	(3) Satisfied with Dispute Resolution	(4) Social Cohesion Index
Settlers	0.07 (0.40)	-0.01 (0.91)	0.25* (0.00)	0.32* (0.04)
Baseline (Indigenous)	4.14* (0.00)	4.69* (0.00)	3.60* (0.00)	-0.09 (0.87)
Observations	423	418	418	418
R^2	0.01	0.00	0.00	0.00

s

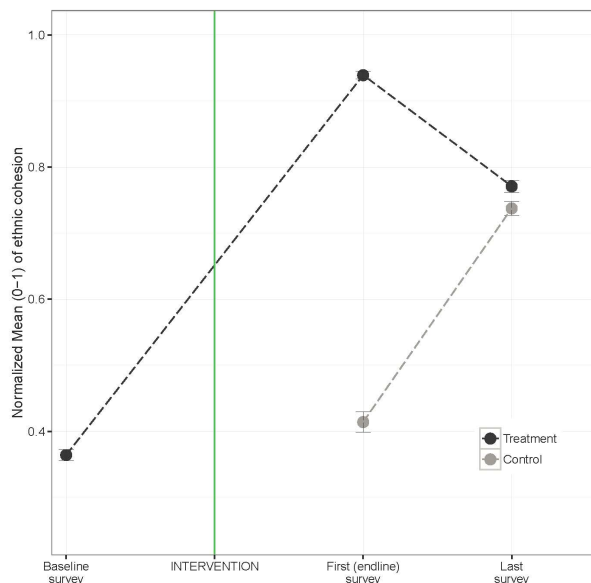
Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 22 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

(column 1) is statistically significant ($p < 0.10$). No other specifications including the social index comes out significant. Table 5 are results but by ethnic group status –indigenous and settlers– the two rival groups and we see that the settlers report higher satisfaction with dispute resolution mechanisms by 0.25 units ($p < 0.05$).

To better understand the trend we do a simple mean comparison of the primary question which we are interested in: the level of ethnic cohesion in the communities in the past one year. However, there are two caveats when comparing the mean of the responses to this question in the two surveys. First, these are not panel surveys. While panel surveys offer greater causal leverage, resource and time constraints restricted us to administer the survey

to a much smaller sample size in our second survey.¹⁹ Second, the scale of responses in the two surveys differ. In the first survey, response choice for this question ranged from 1 to 3 but the choice set ranged from 1 to 5 in the second survey. Due to this difference in scales, we normalized the means before making the comparison.²⁰

Figure 2: Difference of mean level of Social Cohesion after 16 months



Note: The figure above depicts levels of ethnic cohesion reported by respondents in survey conducted immediately after the completion of a project (treatment), and the difference after 16 months. Only the treated communities had the baseline survey administered. Baseline survey was conducted by the UN only in the treated communities.

Figure 2 depicts the normalized mean difference of self-reported ethnic cohesion levels from the two surveys. Overall, we find that the ethnic cohesion levels of the treatment and control groups tend to converge rather than widen. In the first survey conducted immediately after the end of the project, the mean ethnic cohesion level of the treatment group is approximately twice that of the control group. The mean self-reported cohesion level among treatment communities is 94%, whereas it is 41% in the control communities. After

¹⁹The “n” in the end-line survey conducted by the INGO was almost 1500 as opposed to 420 in our second survey. Since only 46% of our subjects in our second survey reported receiving direct treatment sessions, this different subset has the potential of limiting the scope for validation.

²⁰Response to the question of ethnic cohesion had three levels in the first survey and five in the second survey.

16 months, however, ethnic cohesion in the treatment group drops to 77% and in the control group, it increases from 41 to 74%. We additionally include the baseline survey of 877 participants but only from the treatment group villages. We find that the ethnic cohesion level among treatment community members, in the first baseline survey taken before the start of the CDCR project, is slightly less than 40%, which is very close to the control group in the end-line survey.

If we assume that ethnic cohesion level among the treatment and control groups to be similar before the treatment, the figure implies that ethnic cohesion increased in the treated communities when measured immediately after the project implementation. This is in contrast to Casey, Glennerster and Miguel (2012a) and Avdeenko and Gilligan (2015) who find no evidence that community driven development program increases social capital.²¹ However, our positive finding is more likely due to the focused treatment to build social cohesion compared to their more broad-brush CDD approach. In fact, this finding in our study resembles more closely to that of Blattman, Hartman and Blair (2014) and Fearon, Humphreys and Weinstein (2015) who find similar positive results because of alternative dispute resolution education in post-conflict settings. In our study, in absence of the project continuation, the second survey finds that positive results do not sustain over time. The cohesion level in the treatment group regressed back to the mean level after 16 months.

Discussion-In Group versus Out-Group

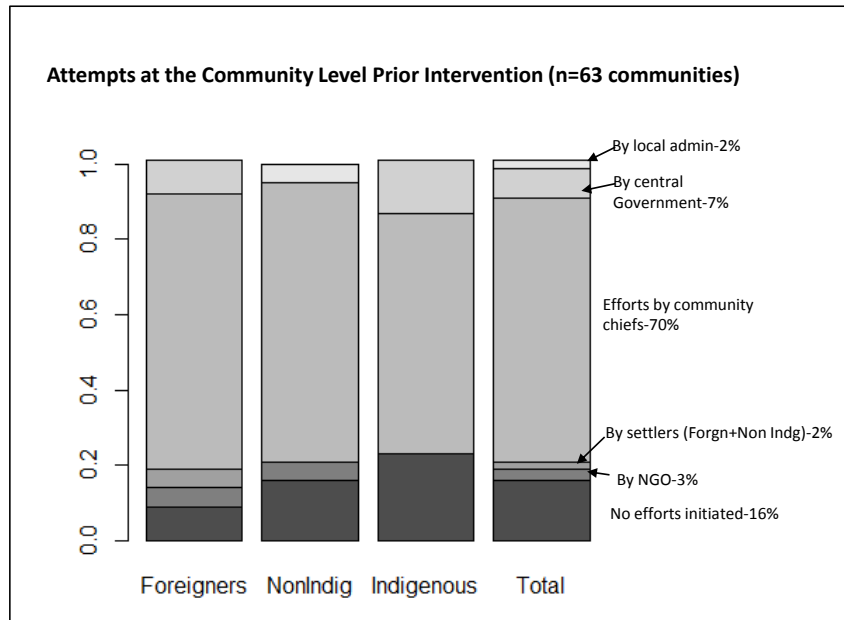
Our final surveys results indicate that in the absence of exogenous CDCR mechanism in place, we should expect a gradual decay in the treatment effect with the passage of time. But, this could be a reflection of the fact that in absence of conflict at macro-level in Ivory Coast, the inter-ethnic hostility levels were dropping. What we would expect then is that the treatment effect goes down, but this shouldn't imply that the social cohesion in control communities goes up something that we notice in Figure 2. What explains this trend? Below,

²¹One reason for their null findings maybe due to the study being conducted after some time of the project completion.

using insights from the land conflict literature, we attempt to provide a convincing argument for the underlying mechanisms driving our results.

We accept that the CDCR framework that the UN implemented was in line with Allport Gordon (1954)'s hypothesis, of building social capital through interpersonal contact between individuals from hostile groups structured within a cooperative and egalitarian framework. This helped reduce prejudice across conflict lines and, as a result improved inter-group relations during the project phase in the treated communities. However, once the implementing INGO facilitators left after the completion of the project, the communities instead of continuing with the exogenous CDCR mechanism, chose their own existing traditional conflict resolution institutions whose benefits are known. This might be because of the risks involved when adopting a new institutional setting through CDCR whose benefits are still not fully known.

Figure 3: Conflict Resolution Attempts



Note: The above figure depicts levels of different types of conflict resolution attempts, in percentage, in all the three types of communities. The first two bars are for the settler population where as the third bar is for the indigenous communities. The fourth bar represents the combined total. Note in all three communities efforts by the traditional chiefs stand out as the highest numbers.

Explanations why the communities would prefer their own alternative dispute mechanisms to the exogenous CDCR approach is still fuzzy if we were to only look at data ex-poste of the intervention. However, the implementing INGO had conducted separate day long detail focus group discussions in each of the 63 communities ex-ante the project intervention and, to our advantage, something they were willing to share. Each focus group session comprised of community chiefs, elders, women and youth as shown in Figure B1. Figure 3 is the result of those efforts which tells us that there were considerable efforts of conflict resolution initiated by community chiefs, prior to the CDCR project, in each of the three communities. All three types of communities, that of foreigners(immigrants), non-indigenous and the indigenous communities had almost 70% of conflict resolution efforts by traditional community chiefs.

The second survey additionally reveals interesting dynamics – that the number one conflict in both the treated and control communities is related to land something previously also identified by the literature (Langer, 2005). When asked “who would you want to report to regarding any armed conflict in your communities,” the primary choice in both groups was traditional community chiefs with no statistical significance in the differences. Likewise when asked “who solves major conflicts in your communities,” both groups identified the traditional chiefs as their number one choice with no statistical difference. Additional results from the second survey tell us that 72% have primary occupation as farming. 43% have land conflict as their primary conflict and only 4% have ethnic and social conflict as their primary conflict. Likewise, traditional community chiefs were chosen for the question: “who do you inform for any types of armed conflict” as: 0.74 for control and 0.67 for treatment. The results for “who solves conflict” was: 0.75 for control and 0.73 for treatment.

Communities in rural African setting have in built existing mechanisms that they utilize to balance prejudices even in absence of any external interventions. In the project intervention area, communities are homogeneous with members from the same tribal background sharing same beliefs, language, culture, and religion and therefore, can rely more on tra-

ditional institutions for governance and protection instead of focusing on intra-community settings that may help in building social capital (Landa, 1994). The marginal benefit from new and externally imposed institutional settings that focus on intra-community cooperation, therefore, becomes small. Leeson (2007) explains this as a trade-off that people will only invest in creating more rules when the marginal benefits outweigh the marginal costs. Fukuyama (2001) provides examples of post conflict societies where there is declining trust in political parties and the state to provide social protection and instead such societies retain strong ties with family and kinships in businesses and other arena.

Using (Marshall and Cole, 2011)’s Systematic Peace data set to measure state fragility across continents, Michalopoulos and Papaioannou (2015) find that Africa has the highest “state fragility” index which proxies governments’ effectiveness and legitimacy to provide security and protect its citizens, and the openness and inclusiveness of political institutions. They present evidence from the Afrobarometer surveys and attribute this to importance of traditional leaders in regulating various aspects of the economy and the polity. In the rural African context, political authority still tends to be personal rather than institutional because micro-level institutions, independent of the authority of religious and tribal rulers, have still not taken root (Michalopoulos and Papaioannou, 2015). The role of these traditional institutions in shaping the social and economic setting in rural African societies continues to gain significant popular support as these structures are perceived as less corrupt and are trusted more than government institutions, especially when settling disputes.

Not only do many Sub-Saharan countries, including Ivory Coast, formally recognize the role of ethnic institutional structures in enforcing customary law and settling property disputes, but tribal leaders continue having considerable political influence on local and national politics (Herbst, 2014; Posner, 2005). There is literature evidence that land rights are not individualistic but are vested in the community with tribal chiefs acting as the custodians (Goldstein and Udry, 2008; Kutsoati and Morck, 2014). Ethnic leaders, therefore, continue wielding considerable power in solving local disputes especially to do with property rights

and land tenure security in sub-Saharan Africa (Michalopoulos and Papaioannou, 2015).

Since a common type of centralized informal institution, due to the absence of strong effective formal institutions already exists, such an institution is able to self-police and monitor members' behavior in order to facilitate inter-group relationships (Fearon and Laitin, 1996). Communities can rely on less costly existing mechanisms, and the CDCR mechanism for conflict resolution will not matter as there is little scope for opportunities to build social capital due to lack of intra-community interaction. The convergence in ethnic cohesion level that we find in our study, therefore, might be indicative of the fact that social capital is created by homegrown initiatives, and not by outside interventions as also argued by Ostrom (2000), Krishna (2002) and more recently Humphreys, de la Sierra and Van der Windt (2019). The huge impact we find immediately after the CDCR project can instead be attributed to what early contact theorists acknowledged –that contact only reduces prejudice under specific circumstances like equal status in repeated and intimate interactions, conditions that are seldom met in the real world (Pettigrew, 1998).

Furthermore, there is no empirical evidence that CDR programs have any effect on governance practices (Casey, Glennerster and Miguel, 2012*b*; Samii, 2013; Humphreys, de la Sierra and Van der Windt, 2019). Our null findings after 16 months are in line with studies that find negative association between ethnic-racial diversity and social capital (Alesina et al., 2003; Costa and Kahn, 2003; Alesina, Baqir and Easterly, 1999). Though the United Nations believed that the CDCR project would sufficiently induce change in conflict resolution practices, the premise that any CDD project works, as laid out by Humphreys, de la Sierra and Van der Windt (2019) hinges on two assumptions: “that a fundamental change is required in governance practices in post conflict communities and that communities need to embrace governance practices which are brought in by donors.” In west Ivory Coast, where the UN implemented the CDCR project, communities are distinctly homogeneous. Platforms to build social capital, such as the one provided by CDCR setting, in absence of continued intervention seem to fade. In order to validate this claim, we look at one of the

aims of any community driven approach which is to also ensure local ownership of activities of the overall process. This is so that such capacity of the communities help attract more development projects on their own (Avdeenko and Gilligan, 2015). In our second survey, we found no real difference between the treatment and control communities regarding the number of ongoing development projects. In fact only 45% of the respondents in the treated communities reported some presence of development agencies versus 55% in control communities.

Table 6: **Mechanism- Victim of Violence**

	(1) Control Mean	(2) Coefficient	(3) <i>p</i> value	(4) Observations	(5) R^2
I.V.= Settler dummy					
a) Victim of Violence during 2010 crises	-0.08	-0.13*	0.00	423	0.09
b) Victim of Violence during last one year	-0.08	-0.03*	0.04	422	0.01

One question that still remains unanswered is why would the settlers show more willingness to cooperate? Though violence had significantly decreased in West Ivory Coast during our second visit, relations between the two ethnic groups were still visibly characterized by historical and institutionalized inequality. Literature points to intentions playing a crucial role when individuals are motivated by reciprocity considerations (Rabin, 1993). In Table 6, we notice that the self reported violence exposure by the settlers –both during the 2010 crises and during the last one year– is significantly less by 0.13 unit than the indigenous. These results are in line with pre-treatment status as reported by the indigenous communities in Table A2 column 3 where they report significantly higher in terms of prevalence of ethnic conflict.

The reason why the settlers were willing to cooperate was probably because the thought of future cooperation with the indigenous allowed them to enjoy a relational good. Since the settlers are new to the area who are competing for resources, and because there conflict related to land is widely prevalent (43% reported land conflict as their primary conflict), signalling to enter a transaction in itself means both parties gain. However the indigenous

refusing to cooperate with the settlers, signals the settlers that in this interaction the gain is only to the indigenous at the expense of the settlers. Therefore, reciprocal behavior from the treated settlers immediately upon completion of the project was “strong reciprocity” as opposed to “weak reciprocity” which they exhibited after 16 months of repeated interactions with the indigenous who constantly were motivated by long-term self-interest towards their in-group (Fehr and Schmidt, 2006). The treated settlers, therefore, seem to have stopped undertaking kind actions because the indigenous, due to the existing inter-ethnic cleavages, did not reciprocate with kind intentions.

7 Conclusion

The UN funded CDCR project’s main focus, through conflict mitigation education, was on building social capital through a bottom-up approach. The expectation was that these broader networks could stabilize ethnically divided communities which in turn would enable aid agencies to manage activities to enhance socio-economic development. The project helped the communities develop their own community safety plans which fell into four main categories- fire arms risk education, activities to build local capacity and institutions for safety, conflict management related activities, and activities related to improved security provision. The immediate objective of the project was to improve community safety for the population of the targeted communities and contribute in the security of one of the most fragile parts of the country and the development objective was to contribute to the stabilization of Ivory Coast.

We use both survey and behavioral games, and additionally re-visit the communities after 16 months to re-assess the CDCR project impact. Our results, in particular, shed light on how a CDCR project generates effects —that the community designed conflict management education (CME)— helped build social capital which in turn reduced ethnic and armed violence. These findings have important implications at the policy level. In ethnic conflicts,

which take many forms and involve different groups and, where peaceful means of dispute resolution don't exist, micro-level community level conflict mitigation measures is the first correct step to build social cohesion.

Our follow up survey, however, indicates these types of exogenous institutional mechanisms, when unmonitored, are difficult to sustain in the long run. It should be clear that our argument does not rest on the assumption that community driven initiatives don't work. One could also, for example, obtain the same results if the intervention was entirely endogenous where all decisions were made by existing conflict resolution institutions. What is crucial to our findings is that the current community driven framework used by almost all development organizations is exogenous to the existing framework in these communities. Hence utilizing an existing mechanism might instead increase efficiency in building social capital.

Identifying the precise causal mechanism of how time affects the sustainability of CDCR projects is outside the scope of this article. Our findings, although important, provide only a glimpse into the full range of possibilities how violently targeted opposing groups interact and shape external peace building efforts. However, as discussed, our study provides a good first view on the topic. There is, therefore, a need for such micro-level interventions to further disentangle mechanisms at play, especially when research findings on the same subject continue to vary.

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Online Appendix

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A Pre-Treatment

Table A1: Community Level Balance: Pre-intervention by Treatment status

	(1) Satisfaction Ethnic Cohesion	(2) Security in community	(3) Ethnic Conflict in community	(4) Soc cohesion effort by Village chief	(5) Soc cohesion effort by others	(6) Log Pop	(7) Dist. to Reg. HQ	(8) Dist. to Sec. Post
Treatment	0.36 (0.25)	-0.05 (0.12)	-0.05 (0.12)	-0.15 (0.11)	0.17* (0.09)	-0.27 (0.21)	4.12 (11.99)	-3.50 (2.45)
Constant	1.94*** (0.17)	1.82*** (0.09)	0.15** (0.06)	0.82*** (0.07)	0.06 (0.04)	7.23*** (0.15)	67.91*** (7.26)	25.00*** (1.27)
Observations	63	63	63	63	63	63	63	63
R^2	0.03	0.00	0.01	0.03	0.06	0.03	0.00	0.03

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ (p-values are for two-sided tests).

Table A2: Community Level Balance Pre-intervention balance by Ethnicity

	(1) Satisfaction Ethnic Cohesion	(2) Security level	(3) Ethnic Conflict	(4) Soc cohesion effort by Village chief	(5) Soc cohesion effort by others	(6) Log Pop	(7) Dist. to Reg. HQ	(8) Dist. to Sec. Post
Indigenous	-0.10 (0.26)	-0.03 (0.13)	0.22** (0.10)	0.11 (0.11)	0.06 (0.10)	0.07 (0.23)	-0.99 (12.42)	0.95 (2.65)
Constant (Settlers)	2.15*** (0.16)	1.80*** (0.07)	0.05 (0.05)	0.71*** (0.07)	0.12** (0.05)	7.08*** (0.13)	70.22*** (7.36)	23.00*** (1.44)
Observations	63	63	63	63	63	63	63	63
Tabl R^2	0.00	0.00	0.10	0.01	0.01	0.00	0.00	0.00

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ (p-values are for two-sided tests).

Table A3: Types of Primary ADR Effort- community wise conducted prior to the Intervention by different Actors

Type of Ethnic Community	Efforts by Local NGO	Efforts by Citizens	Efforts by Chiefs	Efforts by Local Admin	Awaiting visit from Local Admin	No Efforts yet	TOTAL
Indigenous	1	1	14	2	1	5	24
Settlers	1	0	30	3	0	5	39
Total Communities	2	1	44	5	1	10	63

Note: Each number reported is the actual number of communities in that particular ethnic group (indigenous versus settlers) that initiated some kind of Alternative Dispute Resolution (ADR). Data gathered from Focus Group Discussion were conducted in each of the 63 communities, with approximately 15 key subjects in each of the communities, before the intervention began and prior to the INGO baseline. Key subjects were community community chief, traditional leaders, elders, youths and women. See Figure B1.

B Project Intervention

B.1 Pre-treatment

Though randomization at the community level (63) would give us more power, randomization at the Village level (22) eliminated two primary concerns since each village had a cluster of 2-3 communities only separated by a few hundred meters. First, it prevented spillover effects between those in the control and those in the treated communities and, second, worth noting in an African context, potential discontent in the control group is likely to be reduced, as they are less likely to feel entitled to have access to a project that is not available in their own village. The total village population in the area of our study is 124 villages which are located within three departments of Guiglo, Bolequin and Toulepleu in Cavally region along the Liberian border in West Ivory Coast.²² From this village population, 22 villages were selected for the CDCR project implementation. The selection was carried out using stratified random sampling procedure, based on the population of 124 villages and that of the three departments. Because the lowest level of formal authority lies at the village level, the randomization was clustered by village and not the communities. Since each village comprised of a cluster of two-three communities and the treated communities were likely to have similar spillover effects, this process ensured that either all study communities in a village received treatment or none did.²³

B.2 CDCR Intervention Phase 1: Community-led Planning

The CDCR project was carried out in two phases. The first phase of the intervention began in December 2013, as community and village chiefs assembled for a two day “advocacy” workshop, where they were introduced to the details of project activities. At the end

²²Ivory Coast is divided into 19 regions which are further subdivided into 108 departments.

²³The stratified random sampling resulted in 9 villages in Guiglo, 7 in Bolequin and 6 in Toulepleu departments. Guiglo has 31 villages with a total population of 112476, Bolequin has 29 villages with total population of 93458 and Toleplue 55 villages with a total population of 50592.

of the workshop, the three community chiefs along with the main village chief, drafted a declaration in which they committed themselves to work for enhancing community safety in their communities. The next main step saw the formation of a 10-15 member voluntary Community Safety Working Group (CSWG) whose primary aim was to produce Community Safety Plan (CSP) at the end of a separate two week long workshop. During the work shop, community members were invited to share their visions of an ideal community and were subsequently asked how they would bridge the existing gap with possible solutions to mitigate security risks and improve social cohesion both within and between communities. The working group combined this knowledge on conflict management to address the problems of social cohesion, and formulated the CSP as the end product of the workshop.

Once the working group came up with CSPs, the next step was to prepare a team of trainers in each community, who could educate and disseminate the CSP. Leaders in the communities identified a team of five volunteer trainers, which included at least one local teacher. While the trainers were responsible for implementing the community safety plan among members of all ethnic groups in the community, the NGO project employees played an important role in ensuring the continuity of maximum participation among members in the treated communities. This training of trainers phase in all the communities were carried out in a phase wise roll over which took two months till end of February.

B.3 Intervention Phase 2: The Treatment -Community led Dissemination of CSP

The final part of the project required the community trainers to disseminate the CSP contents to their respective community members. The dissemination of the CSP was rolled out at once in all treated communities and were carried out through interactive presentations, plays and distribution of handouts and posters. The sessions covered issues such as stress and tension, communicating in more productive ways, active listening, and creating a consensus. Furthermore, the training teams employed active participation techniques

like role plays related to community conflicts since role plays gave community members a chance to “act out” issues, as a means to deal with the conflict from a more “objective” standpoint. As an incentive, participants of these community training sessions received a T-shirt, a cap and a meal prepared together by the participants. In addition to households, the trainers also targeted teens in schools. A total of 1967 beneficiaries were provided with conflict management education, 3913 additional beneficiaries were provided with small arms sensitization education, and 2256 children were targeted on fire arms hazard education. The NGO facilitators also ensured that the community safety plan incorporated existing tools of interactions at the communities’ disposal such as mobilizing village soccer teams made up of all three community members to play matches with neighboring villages to bring social cohesion. This final phase of disseminating the community safety plan, our treatment, to the community members was rolled over a period of four months beginning March and ending in June, and the duration of the entire project, starting from the focus group discussions and the baseline survey in September 2013 to the completion of the end line survey in September 2014 took thirteen months.

Figure B1: Focus Group Discussion (FGD) prior intervention in (from left to right) Indigenous, Non-Indigenous and Foreigners' communities



Note: The three photos above show how the Focus Group Discussions (FGD) were conducted in each of the three communities in a single village. The FGDs were conducted in length in each of the 63 communities.

Figure B2: CDCR Activities



Note: Left -Community Safety Plan (CSP) being presented by the community chiefs; Right -CSP being implemented in front of the community.

C Endline Results

Table C4: End-line Survey Results with Covariates-Immediately After Intervention

	(1)	(2)	(3)	(4)
	Ethnic Conflict	Armed Violence	Dispute Resolution	Social Index
Treatment	1.04*	1.28*	0.069*	1.75*
	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00	0.00	0.00	0.00
	(0.66)	(0.28)	(0.07)	(0.21)
Sex	0.00	0.01	0.01	0.02
	(0.91)	(0.48)	(0.51)	(0.66)
Employed	-0.01	0.05	0.05	0.06
	(0.90)	(0.32)	(0.16)	(0.24)
	(0.00)	(0.00)	(0.00)	(0.00)
Log population	-0.06	-0.01	-0.13*	-0.21*
	(0.37)	(0.89)	(0.00)	(0.00)
Dist Regional HQ (km)	-0.00	0.00	0.00	-0.00
	(0.38)	(0.13)	(0.93)	(0.74)
Baseline (Control)	2.30*	1.67*	2.15*	0.18
	(0.00)	(0.00)	(0.00)	(0.68)
Observations	1476	1467	1473	1472
R^2	0.52	0.75	0.53	0.67

Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 15 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 1-3. The p-values are in parentheses.

* $p < 0.05$. (p-values are for two-sided tests).

Table C5: Summary Statistics of Behavioral Games according to Treatment Assignment

	Treated		Control		Obs	Min	Max	<i>p</i> value
	Mean	S.D.	Mean	S.D.				
Lottery Choice	3.07	1.32	2.86	1.26	256	1	5	0.22
Amount sent in Cfa. (dictator game)	97.22	41.35	80.32	38.9	256	0	200	0.002
Cooperate (public-goods game)	0.91	0.29	0.77	0.42	256	0	1	0.005
Amount sent in Cfa. (trust game)*	101.02	45.71	85.19	31.67	108	25	180	0.038
Share returned (trust game)*	0.4	0.17	0.4	0.17	108	0.06	0.80	0.969
Trust Index	0.18	0.97	-0.18	0.99	216	-2.20	2.02	0.006
Male	0.67	0.47	0.64	0.48	216	0	1	0.669
Indigenous Group (Autochtone)	0.59	0.49	0.36	0.48	256	0	1	0.006
Christian	0.37	0.49	0.44	0.5	216	0	1	0.333
Muslim	0.19	0.4	0.18	0.38	216	0	1	0.727
Animist or Buddhist	0.44	0.5	0.39	0.49	216	0	1	0.491
Employed	0.74	0.44	0.8	0.4	216	0	1	0.335
Literate	0.68	0.47	0.75	0.44	216	0	1	0.230
Age	42.31	15.03	36.92	12.56	216	20	82	0.005
Log community pop	7.25	0.666	7.11	0.71	216	0	1	0.491
Distance to Reg HQ (km)	57.67	46.45	33	33.27	18	3	144	0.000

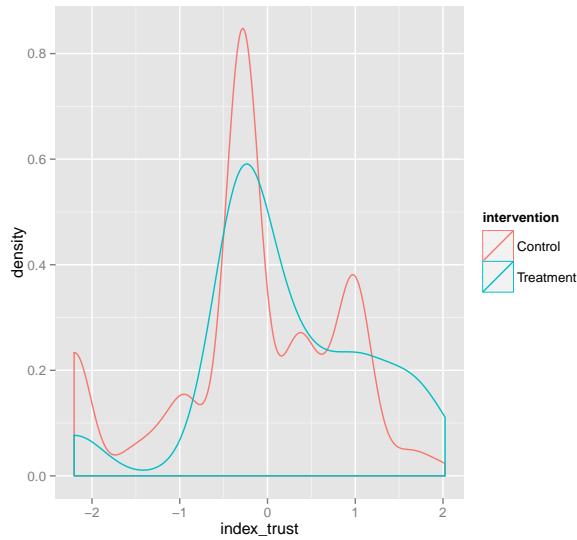
Note: Because subjects were assigned to either a “sender” or “returner” role in the trust game, we have missing data for subjects on one variable or the other.

Table C6: Games Results with Co-Variates

	(1)	(2)	(3)	(4)	(5)	(6)
	Lottery Risk	Dictator	Cooperate	Trust Sent	Trust Return	Soc Index
Treated	0.31 (0.20)	16.91 (0.19)	0.13 (0.09)	14.38 (0.26)	0.01 (0.96)	0.38* (0.02)
Age	-0.00 (0.61)	0.16 (0.42)	0.00 (0.49)	0.46 (0.34)	0.00 (0.77)	-0.00 (0.85)
Sex	-0.01 (0.96)	-15.02 (0.18)	0.06 (0.64)	-6.17 (0.53)	0.04 (0.51)	0.04 (0.92)
Indigenous	0.08 (0.58)	0.00 (1.00)	0.06 (0.37)	0.14 (1.00)	-0.03 (0.37)	0.04 (0.79)
Literate	0.09 (0.77)	15.47 (0.08)	-0.00 (0.94)	8.16 (0.33)	0.04 (0.35)	-0.08 (0.53)
Employed	0.24 (0.45)	15.77 (0.37)	0.00 (0.51)	8.89 (0.39)	-0.04 (0.56)	-0.05 (0.83)
Christian	-0.24 (0.06)	-2.98 (0.68)	-0.04 (0.52)	-10.70 (0.11)	0.02 (0.58)	-0.14 (0.40)
Log Population	-0.13 (0.50)	4.99 (0.50)	-0.06 (0.30)	-0.24 (0.92)	0.05 (0.09)	-0.12 (0.25)
Dist Regional HQ (km)	-0.00 (0.48)	0.02 (0.92)	-0.00 (0.60)	0.04 (0.76)	-0.00 (0.61)	-0.00 (0.72)
Baseline (Control)	3.85 (0.07)	28.37 (0.62)	1.16* (0.00)	60.62 (0.14)	0.04 (0.87)	0.84 (0.29)
Observations	216	216	216	108	108	216
Pseudo R^2	0.03	0.09	0.07	0.09	0.09	0.05

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 18 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

Figure C3: Density Plot of Trust Index according to Treatment Assignment



D Second Survey

Table D7: Summary Statistics from Second Survey (after 16 months of project completion)

	Treated		Control		Obs	Min	Max	<i>p</i> value
	Mean	S.D.	Mean	S.D.				
No. of Violent Crimes	0.08	0.32	0.23	0.62	433	0	3	0.00
No. of Development Org Present	0.87	0.88	0.81	0.72	367	0	3	0.4811
Received Treatment 15 Months Ago	0.90	0.29	0.02	0.16	435	0	1	0.00
Security is Primary Concern	0.49	0.50	0.60	0.48	437	1	1	0.00
Alternative Dispute Resolution Present	3.80	0.60	3.80	0.58	432	2	5	0.95
Confidence towards Security Providers	4.01	0.86	4.07	0.83	433	1	5	0.37
Efficiency of Security Providers	3.90	0.90	3.93	0.82	433	1	5	0.71
Accessibility of Security Providers	3.83	0.94	3.79	0.87	433	1	5	0.68
Male	0.58	0.49	0.62	0.48	430	0	1	0.32
Indigenous Group (Autochtone)	0.66	0.47	0.63	0.48	437	0	1	0.43
Other Ivorians (Allochtone)	0.18	0.38	0.17	0.37	437	0	1	0.84
Foreigners (Allogene)	0.15	0.36	0.18	0.38	430	0	1	0.40
Employed	0.83	0.37	0.92	0.25	437	0	1	0.00
Age	40.26	14.45	44.17	15.34	430	18	92	0.00
Log Village Pop	6.97	0.81	7.24	0.83	22	5.49	9.16	0.00
Distance to Reg HQ (km)	73.63	50.08	67.74	40.95	22	7	141	0.17

Note: The second survey has additional variables which the first survey (designed and implemented by the INGO) does not have.

Table D8: **Final Survey Results-Post 16 months- Treatment by Ethnicity**

	(1) Absence of Ethnic Conflict	(2) Absence of Armed Violence	(3) Satisfied with Dispute Resolution	(4) Social Cohesion Index
Indigenous				
Treated	0.13 (0.19)	0.02 (0.89)	0.03 (0.82)	0.16 (0.47)
Baseline (No intervention)	3.94* (0.00)	3.80* (0.00)	3.72* (0.00)	-0.16 (0.25)
Observations	284	279	281	281
<i>R</i> ²	0.01	0.00	0.00	0.01
Settler				
Treated	0.14 (0.18)	-0.07 (0.56)	-0.03 (0.86)	0.12 (0.56)
Baseline (No intervention)	3.98* (0.00)	3.82* (0.00)	3.94* (0.00)	0.10 (0.49)
Observations	153	153	151	151
<i>R</i> ²	0.02	0.00	0.00	0.00

Note: Standard errors clustered at the village level. Wild bootstrap method (Cameron, Gelbach and Miller, 2008), 1,000 replications, used to account for the clusters, here 22 villages. Standard errors in parentheses. Social Index is the inverse covariance weighted average of outcomes in columns 2-5. The p-values are in parentheses. * $p < 0.05$ (p-values are for two-sided tests).

E Games Scripts for the Four Trust Games

Final Check for the Enumerators before the start of the game.

- (1) 12 players in each session.
- (2) Sex, Age and Ethnic Groups are fairly represented.
- (3) 200 Cfa worth of soap given to those who did not make it to the final randomized list of 12 players.

Activity 1 (Lotteries)

We will start with game 1 where you will be given 5 choices. Each choice will be a different kind of gamble. In each gamble, there are two possible prizes. We will ask you to choose which gamble you like the best. Then, we will flip a coin. If it is [heads], you will get the prize on the left of whichever gamble you picked. If it is [tails], you will get the prize on the right. (Point out to table 1 which is below a blow up is separately attached)

Example (demonstrate with coin and showing lottery example): Suppose you pick the fourth gamble. Then, if it is [heads], you get 350CFA, if it is [tails], you get 50 CFA. [Flip a coin and say what you would get.] Okay, does everyone understand? If yes: Okay, you will come up one by one, and we will play the game.

Activity 2 (Dictator Game (Do not tell people the name of the game)).

Now we will play the second game where you will have to decide how much money you wish to donate to a needy family in your community. We are required to guarantee the anonymity of this family so we cannot tell you their name. The family that will receive your donations has been picked by us in consultation with local community leaders. When it is your turn, you will each be given 200 CFA and you will be asked to decide how much of that 200 CFA to give to this needy family and how much to keep for yourself. You will indicate how much you wish to give to the organization by pushing the 25 CFA coin that you wish to

give over the line on a sheet of paper. Those coins that you keep on your side of the line are yours to keep. You will be awarded that amount of money along with your other winnings at the end of the game. [Demonstrate on the drawing]. Any questions? If no then come here one by one.

Activity 3 Trust Game (Do not tell people the name of the game). Now we move to our third game which is a completely new game and is completely different from the last two games. In this game, you will be either a sender or a receiver. Both the sender and the receiver get 200 CFA in 8x25 Cfa coins to start. Then, the sender person decides how much of his or her 200CFA to send to the receiver and how much to keep. Whatever the sender sends to the receiver is sent is then tripled by us. So if 25 CFA is sent, we will make it 75 CFA. If 50 CFA is sent, we will make it 150 CFA. If 75 CFA is sent, we will make it 225 CFA and if 100 CFA is sent we will triple it to 300 CFA. Then, we will give this tripled amount to the receiver. The receiver will decide how much of it to keep and how much to send back to the sending person. Example (demonstrate with coins): Suppose the sender sends 100 CFA. We will make the 100 CFA that were sent into 300 CFA and give it to the receiver. The receiver now has this 300 CFA plus the 200 CFA that he or she starts the game with, so in this particular example the receiver would have a total of 500 CFA. The receiver now decides how much of this 500 CFA to send back to the sender and how much to keep. He or she can send all of the 500 CFA and keep nothing, send 50CFA back and keep 450, send 100 back and keep 400, send 150 back and keep 350, send 200 back and keep 300, send 300 back and keep 200, and so on including sending nothing back and keeping all 500.

Here is another example. Suppose the sending person sends 200 CFA and keeps none. We will triple this amount so that it is 600 CFA and give it to the returning person. These 600 CFA plus the receiving persons 200 CFA gives him or her a total of 800 CFA. The returning person can keep all of the CFA and send nothing back, or keep 100 CFA and send 700 CFA back, or keep any other amount 650, 500, 300, 200 etc. and send the rest back. Here are the

steps: The game proceeds in two rounds. In the first round you will come up one by one and draw your number. We will tell you if your number means that you are a sending person or returning person. We will randomly match up each sending person with a returning person. But no one will know who their partner in this game is.

- If you are a sending person: Your first job will be to show us how much you want to send to your receiving person and how much to keep. Remember that we will triple whatever you send before the returning person gets it. You will show us your choice and then return to your seat. Do not tell anyone what you sent.
- If you are a receiver you do nothing this time. You just return to your seat. Then we will proceed to the second round. Once again each person will be called up one by one.
- If you are a sender you have no further decisions to make. You can return to your seat
- If you are a receiving person we will tell you how much was sent to you. Your job will be to decide how much to send back and how much to keep. You will show us this decision by pushing the amount of money you want to return to the sender over the line on the sheet of paper between you and the game facilitator. Do not tell anyone what you sent back. You will find out how much you are paid after all the games are finished.

Activity 4: Public Goods/Obligation game (Do not tell them the name of the game)

Now we will play our final game of the day all together in a group here in the discussion area. In this game each person will be handed two folded cards like these [show them a pair of cards]. As you can see on the front of each these folded cards is an identifying letter for each player A through L. Each pair of cards will be given to the proper player according to the identifying letter. The inside of the two cards is different. Inside one of the cards is completely blank. Nothing is written in it. Inside the other card we have drawn an X. So, each of you

will have two cards with you identifying letter on the front of both. The inside of one of the cards will be blank and the inside of the other card will be marked with an X. Here is how the game is played. In the first round I will ask you to turn in one of your cards. You will choose which of the two cards you wish to turn in and give it to one of the game facilitators. It is very important that you do not show anyone else which card you are turning in. Do not show which card you are turning in to anyone else and when you turn your card keep the card folded so no one else can see which one you are turning in. Once everyone has turned in their first card as a group we will proceed to the second round. In the second round we will have you come up one by one and turn in your remaining card. Here is how we will figure out the money you will win: For every card with an X in it that is turned in in the first round we will give every player 25 CFA. So, if five people turned in cards with an X in them in the first round every player here will receive 25 CFA. In addition to that amount we will give every player 100 CFA for every card with an X that they turn in one by one in the second round. So if 5 people turned in cards with an X in them in the first round but you kept your card with an X in it and turned it in in the second round you would receive a total of 225 CFA: 125 CFA for the five X cards that were turned in and 100 CFA for turning in your own X card in the second round. But if you were one of the five people who turned in your X card in the first round you will receive only 125 CFA: the 125 CFA for the X cards turned in in the first round. Obviously you have no X card to turn in in the second round because you turned it in in the first round. So in summary, we will first collect one card from each of you. For each X card we collect we will give everyone 25 CFA. Then you will come up one by one and turn in your remaining card. We will give you 100 CFA if you turn in an X card and nothing if you turn in a blank card. To put it another way, If you want to increase the amount of money that everyone receives by 25 CFA turn in this card in the first round [SHOW THEM THE CARD WITH THE X IN IT]. If instead you want to increase the amount that you and only you receive at the end of the game by 100 CFA, keep this card [SHOW THEM THE CARD WITH THE X IN IT] in the first round and instead turn in this card [SHOW

THEM THE BLANK CARD] in the first round. Does everyone understand the rules of this game? Are there any questions?