



# CO-MANAGING PEACE

NATURAL RESOURCES,  
AGREEMENT DESIGN, & THE  
PROMOTION OF PEACE AFTER WAR

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# CO-MANAGING PEACE:

## NATURAL RESOURCES, AGREEMENT DESIGN, AND THE PROMOTION OF PEACE AFTER WAR

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Cover Images, left to right: An indigenous women of Guatemala's Polochic valley is a part of the Joint Programme on Accelerating Progress towards the Economic Empowerment of Rural Women; Ryan Bornw: UN Women; Atendants in El Fasher, North Darfur, at the opening ceremony of the Forum for the Joint Mechanism to Address the Situation in El Srief and Surrounding Localities, addressing inter-tribal conflict over goldmines, Albert González Farran, UNAMID; Darfuri women and children wait for the arrival of the UNAMID Special Envoys for Sudan/ Darfur in Mukjar, West Darfur during continued peace talks in 2011, Olivier Chassot, UNAMID.



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## EXECUTIVE SUMMARY

Cooperative management, commonly referred to as co-management, refers to an arrangement between communities and governments to distribute authority and responsibility for natural resource management to various stakeholders. When natural resources are a point of consideration in peace accords, co-management is one possible mechanism for bringing parties together. But does including management mechanisms in peace accords impact the viability of the accord? We examine how co-management provisions affect the durability of peace agreements. Broadly, we find that co-management provisions are more effective when combatants have a vested interest in the equitable distribution of natural resources and the government is willing to devolve authority to local partners or resource users. Issues over resource use may spur conflict and undermine fragile peace processes. While peace agreements often attempt to address these challenges, there remains little research on how best to manage resources after the end of a civil war. Co-management, as an approach, ensures that resources are jointly managed by the national government and local communities, nongovernmental organizations, or other resource users. Based on previous research of civil war settlements, co-management should strengthen the peace process by offering greater transparency around the management of resources and ensuring no single party has a monopoly over policies governing resource extraction and administration.

*Based on previous research of civil war settlements, co-management should strengthen the peace process by offering greater transparency around the management of resources and ensuring no single party has a monopoly over policies governing resource extraction and administration.*

Here, we analyze 34 comprehensive peace accords that negotiate the end of civil conflict between governments and rebel groups, as captured in the Peace Accords Matrix Implementation Dataset. Each comprehensive peace accord was coded according to provisions that dealt with natural resources as one of three forms: devolved authority to the local level, maintained national-level control, or shared management through co-management of provisions. We find that when rebels advocate for more redistributive policies, co-management provisions result in the following.

1. **CO-MANAGEMENT REDUCES THE RISK OF FUTURE FIGHTING** when both the government and the rebel group have a vested interest in managing natural resources.
2. **CO-MANAGEMENT PROVISIONS ALLOW FOR LONGER PEACE AS COMPARED TO RESOURCE MANAGEMENT PROVISIONS** that place authority over natural resources solely at the local level or solely at the national level.
3. **CO-MANAGEMENT PROVISIONS SHOULD ADDRESS COMBATANT CONCERNS ABOUT NATURAL RESOURCES BY FACILITATING GREATER TRANSPARENCY** around the distribution of natural resource wealth and ensuring the equitable balance of authority.

While this research focuses on how co-management may enhance peace processes, the implications extend well beyond current armed conflicts. Locations with armed conflicts are the most difficult cases in which co-management may be implemented. If co-management can be seen as effective in these contexts, it would suggest that this approach may be utilized to prevent the onset of armed conflicts in the first place. Co-management may, therefore, help address current conflicts where large-scale violence has not yet emerged, primarily by incorporating partners who have a vested interest in the distribution of resources and by ensuring that the government is willing to devolve authority to local communities or natural resource users. To advance research in this area, new work should focus on ensuring that governments devolve authority to their local partners.



Southern Sudanese soldiers stand next to crude oil reservoir tanks at a field processing facility in 2010. Photo: Roberto Schmidt, AFP, via Getty Images.

## I. INTRODUCTION

Natural resources have played an important part in armed conflicts globally, as well as in disputes more locally. For example, South Sudan has been at war since 1983, first with the government in Khartoum, then between rivals within the new state. In addition to salient issues around ethnicity and religion, these conflicts have also centered on the significant oil wealth within South Sudan.<sup>1</sup> Oil wealth was, therefore, a critical provision in the 2005 Comprehensive Peace Agreement, which set the stage for South Sudan's eventual independence. Conflicts around natural resources may also be more localized. For example, localized conflicts around land ownership and land use have long plagued Kenya.<sup>2</sup> How best to solve these issues is thus a critical question for promoting security.

Here, we examine how the principles behind resource cooperative management (co-management) may reinforce peace processes by providing better mechanisms to manage natural resource wealth. Access to, and overreliance on, natural resource wealth significantly increases the risk of

armed conflict in fragile states.<sup>3</sup> With regard to fragile peace processes addressing civil war, significant natural resource wealth has the potential to dramatically undermine efforts to foster stability.<sup>4</sup> Access to resource-based wealth raises the stakes associated with being in office (as elites seek to loot rents derived from the wealth). Furthermore, disputes over the equitable distribution of natural resource wealth may have been part of the core grievances that led to the onset of civil war in the first place. Managing disputes over natural resource wealth has the potential to dramatically increase the durability (and success) of peace agreements,<sup>5</sup> but the proverbial jury is still out on how to best accomplish this goal.

*Managing disputes over natural resource wealth has the potential to dramatically increase the durability (and success) of peace agreements, but the proverbial jury is still out on how to best accomplish this goal. We explore the potential of co-management as one avenue.*



Co-management of natural resources is one avenue that may provide a meaningful approach to reducing tensions around natural resource management in peace processes. Since 1989, comprehensive peace agreements have included numerous approaches to managing natural resources as part of fragile peace processes. While research suggests that provisions to help manage natural resources reduce the risk of renewed fighting between parties,<sup>6</sup> there is surprisingly little information on *how* peace agreements should manage natural resource wealth. Co-management is a process by which local communities (resource users), vested stakeholders (landowners, oil companies, etc.), the government, and external partners (such as NGOs) cooperate over the management of natural resources.<sup>7</sup> Parties share not only the responsibility but also the authority to manage natural resources. Co-management has been successful at instilling community ownership and, therefore, stewardship over resources and at providing governments with limited capacity innovative ways to leverage local expertise.<sup>8</sup> Here, we explore whether provisions that include co-management elements help to support peace processes. Our findings may also shed light on the practice of co-management outside of active armed conflicts. Fragile peace processes often represent highly tenuous environments where parties have deep mistrust of one another. The lessons learned in such an environment should also help practitioners employ these tools in other, less contentious contexts.

FIGURE 1: COOPERATIVE MANAGEMENT DIAGRAM



The Peace Accords Matrix Implementation Dataset (PAM\_ID), based out of the Kroc Institute for International Peace Studies at the University of Notre Dame, is a source of longitudinal data on 34 comprehensive peace agreements (CPAs) negotiated between 1989 and 2013 used to track the progress of their implementation.<sup>9</sup> We examined all peace accords contained in this database, identifying those that contain provisions for natural resource management and further classifying the type of management prescribed. First, we used statistical models to examine how the inclusion of co-management provisions in peace accords affects the risk that parties will reengage in fighting. We then coupled these results with three case studies that varied in their use of co-management: a case of successful co-management, a case that employed co-management with mixed results, and a case where co-management predated the peace accord but was left out of the peace process. The initial findings from this report are somewhat mixed. While co-management as a tool is not a panacea for ensuring durable peace processes, we find it may be valuable in certain contexts. Specifically, when both sides have a truly vested interest in managing natural resources, co-management works exceedingly well at reducing the risk of future fighting. However, if the equitable distribution of natural resources was not a core dispute in the armed conflict, the provision has no real effect. The case studies provide context. Specifically, simply including co-management provisions in peace agreements is not enough to guarantee a durable peace. Rather, co-management contributes to peace only when the government chooses to devolve management authority to local communities and organizations. While this may seem obvious, provisions tied to salient natural resources (like land reforms) are usually the most difficult to successfully implement.<sup>10</sup>

In the following sections, we provide a brief overview of what is currently known about how natural resources increase the risk for violence as well as the degree to which peace agreements can address these grievances. Next, we discuss how co-management can assist with peace processes as well as what our statistical models show about the efficacy of this approach. Finally, we elaborate on these results with three case studies that explore when co-management has been effective and when it has failed to enhance peace processes. We conclude with key summaries and policy considerations for practitioners.

## II. UNDERSTANDING THE ROLE OF NATURAL RESOURCES IN ARMED CONFLICTS

A significant body of academic work has underscored the role of natural resources in spurring armed conflict. The rationale behind this trend is compelling: conflicts associated with natural resource exploitation are more likely to reemerge than those unrelated to resources, and to do so twice as fast as their counterparts.<sup>11</sup> To explain this phenomenon, researchers often link rebels' motivations to take up arms with the financial opportunities associated with resources. For example, Collier and Hoeffler argue that the presence of primary commodity exports increases conflict risk by creating opportunities for extortion that “[make] rebellion feasible and perhaps even attractive.”<sup>12</sup> While Fearon later challenged their findings, instead suggesting that oil rents shape a political environment susceptible to violence, this scholarly contribution spurred a critical debate around rebel greed over resources and the onset of civil war.<sup>13</sup> Indeed, other work has noted the significance of rebels' financial motivations, indicating that revenue from resource exploitation can represent both a reason to initiate or prolong fighting, and the key funding source for these endeavors.<sup>14</sup> In some instances, this financial motivation has been so compelling that rebels prioritized resource control over outright victory, apparently trumping their other political aims.<sup>15</sup> Thus, rebels may decide that the spoils of resource wars are essentially worth the considerable risks associated with continued fighting.<sup>16</sup>

The available research adds complexity to this perspective by establishing the role of rebel grievances regarding resource management—not just greed—in contributing to armed conflict. For example, Biafra in Nigeria, the Guerrilla Army of the Poor in Guatemala, and numerous other violent groups have cited control over natural resources and associated revenue as key issues in their manifestos and other public statements.<sup>17</sup> Some scholars contend that rebels are merely attempting to position themselves favorably in international media through this approach, while others argue that such grievances are not consistently correlated to the outbreak of conflict.<sup>18</sup>



*A Biafra flag flies beside a placard on May 30, 2017 in Abidjan, during commemorations of the 50th anniversary of the Nigerian civil war, amid renewed tensions and fresh calls for a separate state. Photo: Sia Kambou, AFP via Getty Images.*

However, grievances over natural resources remain a significant point of analysis as there is an increased risk of violence if countries use ethnicity as a basis to prohibit financial benefits of a resource, or if economically disadvantaged groups feel acutely excluded from profits.<sup>19</sup> While Collier and Hoeffler somewhat juxtaposed rebel greed and grievance as competing mechanisms, the research suggests a more blended dynamic where both motivations could be significant drivers of conflict, depending on the context.<sup>20</sup> Such analyses around rebel motivations lay the groundwork for hypothesizing effective drivers of peace.

Whether motivated by greed, grievance, or some combination thereof, existing scholarship suggests that conflict over natural resources prolongs fighting through several mechanisms. First, revenue from resources may enable rebel groups to continue fighting for longer periods of time, either through purchasing weapons or recruiting soldiers who have otherwise limited economic opportunities.<sup>21</sup> Through an analysis of case studies, Ross argues that the presence of natural resources prolongs conflict when the goods are controlled by the weaker side.<sup>22</sup> As rebel groups are typically weaker vis-à-vis the state, this indicates that control and concomitant financing could be associated with longer conflicts, as long as the groups do not become so strong as to induce a settlement from the government. Conrad et al. posit that this “power to resist” is contingent upon the method by which rebels profit from resources: only through smuggling does rebel control of resources lengthen civil war.<sup>23</sup>

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Given these findings, how could effective resource management contribute to enduring peace? There is evidence that resource co-management, wherein there is greater local decision-making authority over resources, has helped mitigate conflict around assets including fisheries, forests, water, and coastal zones.<sup>24</sup> Research indicates similar findings for land ownership, as the inclusion of land reform provisions significantly reduces the risk of civil war recurrence following the establishment of a negotiated settlement—theoretically addressing prewar rebel grievances around ownership, usage, and distribution.<sup>25</sup> Importantly, the protective qualities of effective management may extend to particularly risky postwar periods, including during elections in oil-rich economies, which have been shown to decrease the durability of peace.<sup>26</sup> Collectively, this work is compelling and makes important contributions to the study of resource management and civil wars.

However, there remains a significant gap in evaluating how well peace agreements actually address the concerns of rebel groups motivated by resource distribution. Current research on resource management

is far from comprehensive regarding the type of resource analyzed, and the comparative efficacy of management types (national control versus shared control) for these resources. As oil, minerals, and access to arable land have the strongest connections to conflict, arguably indicating greater incentives to fight for them, it is worth interrogating whether co-management methods are consistently effective across resource types. To our knowledge, there is not research that considers different resource types in analyzing the efficacy of postwar resource management modalities. While Keels does analyze oil-rich states, his research focuses only on oil and within the context of postwar elections, rather than the postwar period in general.<sup>27</sup> Additionally, the existing research by Pomeroy, Brady, Ratner, and their colleagues, which advances co-management approaches, fails to address resource settlement from the perspective of rebel groups.<sup>28</sup> Conversely, research around rebel motivations tends to focus on why they take up arms, while neglecting to analyze how their greed or grievances (or both) might be mitigated by effective management strategies; this exposes a critical gap in our understanding of how the two streams of research intersect. While Keels and Mason do assess the potential of conflict mitigation through land ownership provisions, their assessment leaves out an evaluation of management strategies.<sup>29</sup> In this study, we connect these nodes concerning natural resources and civil war—rebel motivations and management methods—and in so doing, we contribute a more systemic perspective of settlement conditions that are conducive to lasting peace.

### III. CO-MANAGEMENT AS A MECHANISM FOR PEACE

We expect that peace agreements that adopt co-management provisions for governing the use of natural resources (broadly defined) will significantly strengthen the peace process. Accepting the proposition that continued disputes over natural resources may undermine the peace process, peace agreements that fail to adequately manage these resources are likely to lead to renewed fighting. Similar to power-sharing agreements and electoral reforms in peace processes, co-management provisions are likely to generate transparency around the distribution of natural resource wealth and force cooperation over the implementation of these provisions.

As noted by Sen and Nielsen, co-management can take many different shapes.<sup>30</sup> Broadly, though, the process must entail some cooperation between the government and the local resource users. This differs, therefore, from traditional community-based resource management, where resources are largely managed by local communities irrespective of government activity.<sup>31</sup> Co-management specifically entails government action in the process, although the scope of government action may vary. Such arrangements may range from significant government control over resource management (what Sen and Nielsen describe as a “consultant” role) to very little government involvement in the process (the “informative” role). For the purposes of our analysis, we focus primarily on involvement where governments and their respective resource users (e.g., farmers, fisherfolk, mining companies and their host communities, etc.) must cooperate based on institutions generated by the peace process (similar to power-sharing agreements).<sup>32</sup>

Co-management provisions that facilitate cooperation between the government and local communities share many key facets with other successful postwar institutions. For example, political and military power-sharing agreements often address the concerns of combatants that their rival will renege on the terms of the deal and seek to punish them after an agreement is signed (what are commonly referred to as *commitment problems*).<sup>33</sup> These agreements provide significant transparency into the political process and the actions of the military, thereby reducing concerns that rival parties

will renege on the agreement. Similarly, provisions that foster continued cooperation after the signing of the agreement also reduce concerns and build trust between warring parties. Research on coordination around new electoral laws demonstrates that the implementation of these provisions dramatically reduces fears, particularly around elections.<sup>34</sup> In other words, provisions that foster cooperation on a particular issue reduce many concerns about that specific issue.

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Consequently, our expectation is that co-management provisions should address combatant concerns specifically on issues around natural resources by facilitating greater transparency as well as ensuring the equitable balance of authority. Co-management provisions that require cooperation between parties ensure that both the national government and local communities share authority over the distribution of resources.<sup>35</sup> This should assist with concerns that one party will unilaterally dominate the management of resources after the agreement is signed. Similarly, as parties are forced to cooperate in implementing the provisions and managing the resources, this should provide greater transparency into the process thereby ameliorating potential concerns.

## IV. FINDINGS

To relate the inclusion of co-management of resources to the durability of peace processes, we looked at statistical models for all comprehensive peace agreements signed since 1989 and three detailed case studies. For the statistical tests, we asked whether the inclusion of co-management provisions was related to reductions in future conflict (see the Technical Appendix for more details). In other words, does the inclusion of co-management provisions lead to longer periods of peace after the end of the war? Our case studies provide a deeper look into how co-management provisions have been implemented and handled once the war has stopped. We analyzed three cases where co-management has had mixed success. First, we looked at the conflict in Senegal where co-management was never included in the peace agreement. We then examined the case of Guatemala, where peace has largely lasted between warring parties but the co-management provisions have failed to provide fundamental change (leading to tenuous relations). Finally, we explored the peace process in Papua New Guinea, where co-management provisions have appeared to be very successful in fostering peace.

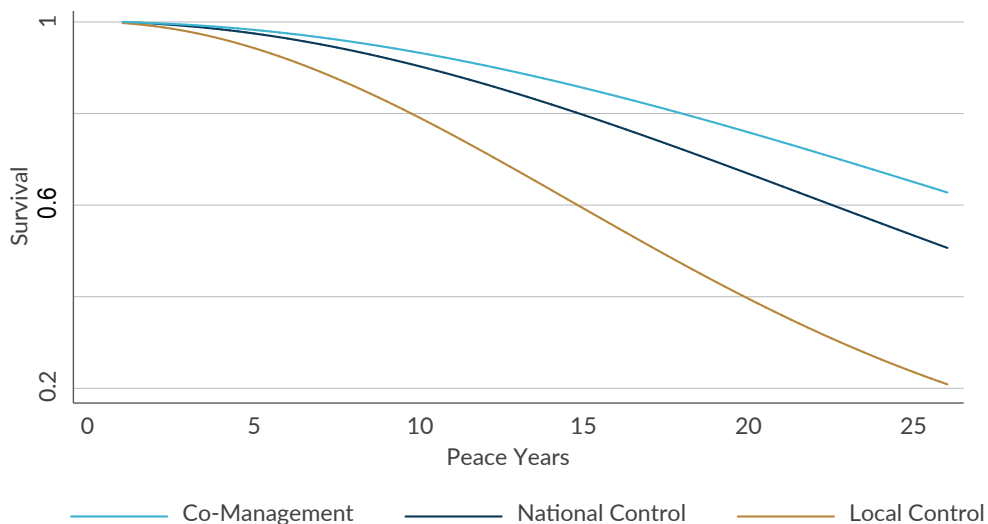
### Statistical Results

The findings of our statistical analysis are mixed. Co-management provisions, in and of themselves, inconsistently provide long-term peace following a civil

war. To isolate the effects of co-management provisions, we controlled for a number of likely alternative factors that may undermine the peace process, such as contentious issues in the previous armed conflict, rebel group capacity, relative economic development, and political institutions, to name just a few factors (see the Technical Appendix for more details). Simply including co-management provisions alone does little to promote long-term stability.

It should be noted, though, that the presence of co-management provisions allows for longer peace as compared to resource management provisions that place authority over natural resources solely at the local level or solely at the national level. Managing natural resources in the aftermath of armed conflicts is a tenuous process, and decision-making at the local level or the national level is likely to exclude critical partners. This, in turn, will spur discontent in the resolution of conflict. To help illustrate this point, we calculated the estimated *survival* of peace agreements using survival curves. These show the durability of peace agreements after they are signed (i.e., their life span or the time until conflict reemerges), where steeper curves suggest shorter life spans. Figure 1 shows survival curves for three types of resource management provisions: those that keep authority at the local level, those that place authority at the national level, and those that allow for co-management of resources. Co-management provisions support peace processes with the longest life span or duration.

FIGURE 1. SURVIVAL CURVES FOR PEACE PROCESSES  
*Weibull AFT Model*



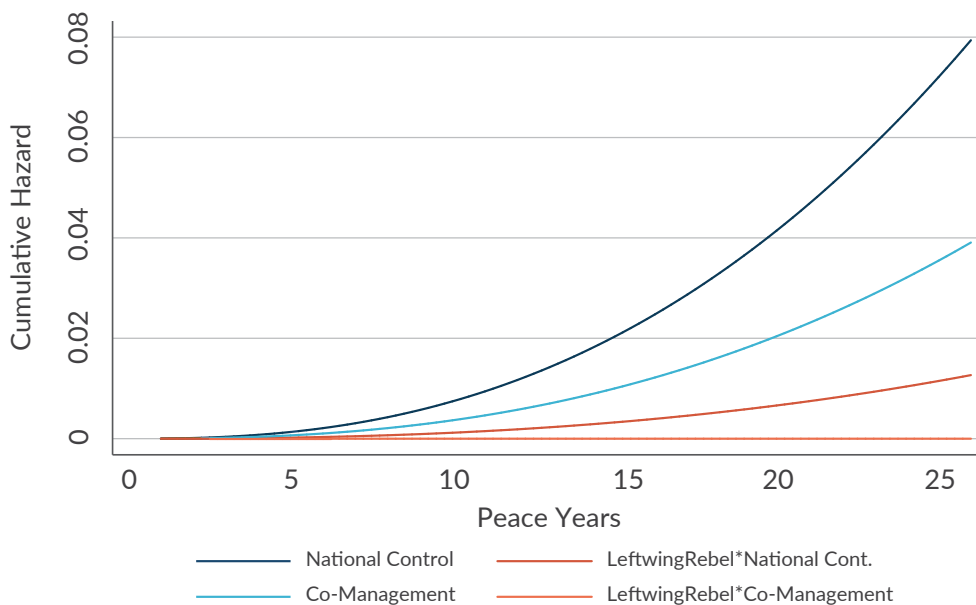
It may also be the case that co-management will only work when the management of resources is important to both parties. Establishing effective mechanisms around managing resources may mean little to a rebel group that is solely interested in taking political power. While such provisions may be valuable for members of disaffected communities (who may have advocated for the inclusion of these provisions in the first place), armed groups may simply prefer to return to war if these provisions represent little value to them. It may, therefore, be important to assess the efficacy of co-management in light of the actual goals behind the rebellion. To do this, we account for whether rebel groups advocated for left-wing economic policies centered on the redistribution of wealth. While this is an imperfect proxy for rebel group concern over natural resource wealth distribution, it does capture the stated preferences of rebel organizations.

This additional analysis suggests that co-management substantially reduces the risk of renewed fighting when rebels advocate for more redistributive policies. When rebels have an effective stake in the distribution of natural resource wealth, building mechanisms that clearly establish the distribution of natural resources ensures that the peace process is exceptionally robust. This may

relate, in part, to the fact that these groups often rely heavily on a civilian base for support.<sup>36</sup> As these groups are more accountable to their constituents compared to other organizations that are not as dependent on core constituents for support, left-wing rebels have a vested interest in ensuring that co-management mechanisms are established and that they play a role in their continued implementation. Interestingly, the findings are also similar (but weaker) when resource management is placed under national control, suggesting that even when the government oversees resource management, left-wing groups still pursue the interests of their constituents at the national level.

To illustrate these effects, we chart the cumulative risk of renewed fighting over time. Figure 2 shows how the predicted risk of renewed fighting changes for peace agreements that include national-level control over natural resources versus co-management provisions, and the change in risk for either type of provision when the process includes a left-wing rebel group. Of significance, the risk of renewed fighting when left-wing groups sign onto co-management provisions is effectively zero, suggesting an exceedingly durable postwar peace process.

FIGURE 2. CUMULATIVE HAZARD OF RENEWED FIGHTING FOR PEACE PROCESSES  
*Weibull AFT Model*



## Case Studies

To further explore these findings, we examine three case studies on the efficacy of co-management in peace processes. The first case study provides an illustration of where co-management failed to provide durable peace in a conflict-affected country. Though co-management provisions were developed prior to the start of the conflict in Senegal, the exclusion of local actors undermined basic co-management principles, and such provisions were unable to preserve peace. The absence of any revised provisions helped to ensure that instability would be renewed throughout the Casamance regions (particularly given the importance of such a provision). Second, we look at a case study where co-management was included, but for which the provision failed to generate permanent stability. Within Guatemala, co-management of provisions was a key part of the peace settlement, but the government has largely failed to ensure the full implementation of the provisions and the inclusion of local actors in the decision-making process. Finally, we look at the case of Papua New Guinea, where co-management was successfully implemented and there has been a dramatic decrease in the risk of renewed conflict.

### Senegal

#### Background

The Casamance region of Senegal, a semi-enclave almost completely cut off from the mainland by the Gambia, has historically been set apart from the rest of the country. Northern Senegal, where the capital, Dakar, is located, is a predominantly Muslim region inhabited by ethnic Wolof. The majority of Senegal's Christians and Animists live in the southern Casamance region, where the minority ethnic group, the Diola or Jola, make up two-thirds of the population.<sup>37</sup> This ethnic settlement pattern,

in addition to the socioeconomic inequalities between the two regions, facilitated separatist violence.<sup>38</sup> The Casamançais believed that their region has remained poor and underdeveloped due to a discriminatory education system, perceived exclusion from the political conversation at the regional and national levels, and the government's unfair redistributive land policies.<sup>39</sup>

The Casamance land is more temperate than the Sahelian north, and the Casamance River runs from the region's forested highlands into the Atlantic Ocean on a pristine coastline. A drought in the 1970s led northerners to recognize agricultural opportunities in the Casamance.<sup>40</sup> Through the 1964 National Domains Act, the Senegalese government allowed all land that had not been formally registered, including land subject to customary Casamançais law, to be allocated for commercial exploitation.<sup>41</sup> Originally, the land management plan was praised as an innovative solution. An early version of co-management, the intended legislation sought to create flexible provisions of frameworks for local communities to plan and implement community-based natural resource management activities.<sup>42</sup>

The Casamance land was fundamental to the Casamançais identity, and their tradition of land allocation was not conducive to these entrepreneurial opportunities.<sup>43</sup> The

MAP OF SENEGAL, HIGHLIGHTING CASAMANCE REGION



Diola practice sedentary agricultural activities. Their fields, traditionally used for rice production, are highly valued for the generations of invested effort required to maintain them.<sup>44</sup> In Diola culture, land was customarily lent to newcomers in what is known as the *adjjati* relationship.<sup>45</sup> The host, or *adjjati*, provides a newcomer, or *adjaoura*, with shelter, food, and opportunities to settle. The *adjjati* becomes the intermediary between an elder who cedes a portion of their land and the *adjaoura*, in addition to helping the *adjaoura* establish their new network of relations within the community. In exchange for the shelter, land, and social connections, the *adjaoura* must recognize the social superiority of their *adjjati*. The flexibility of the Diola system was reduced by the 1964 land reform. A reallocation program discarded existing rules in the Casamance rural land and urban centers, including their capital Ziguinchor, resulting in high tension and legal conflicts. *Koudjati* (*adjjati* plural) lost authority because they could not fulfill the expectations of their *adjaoura*, and “outsiders” (non-Casamançais Senegalese) profited. A regional aversion to everyone and everything not from the Casamance developed, manifesting in protests and violence.<sup>46</sup> The perceived invasion of outsiders from the north is considered one of the main reasons for the outbreak of the separatist conflict.<sup>47</sup>

On December 26, 1982, Le Mouvement des Forces Democratiques de la Casamance (MFDC), a separatist group formed in 1947 and made up predominantly of the Diola ethnic group, organized a peaceful protest march around land allocation and trade grievances. The demonstration became violent when the protesters replaced the Senegalese flag on the regional government’s office with a white flag. The government responded with targeted repression of the Diola ethnic group, including the arrests of MFDC political leaders. During the trial of the MFDC leader, Father Augustine Diamacoune Senghor, there were violent clashes in Diarbir and Ziguinchor, resulting in 29 fatalities.<sup>48</sup> A year later, there was an attack on the regional capital Ziguinchor, after which the MFDC was driven into the forests, where it radicalized, forming an armed wing known as the *maquis*, or Attika. The *maquis* engaged in targeted guerrilla attacks against the Senegalese army and symbols of Senegalese statehood. The conflict became a low-scale civil war in 1990, but conflict existed from 1980 to 2004. The low-intensity and territorially confined secessionist conflict became West

Africa’s longest running conflict.<sup>49</sup> The limited intensity has been linked to the structural conditions and secessionists’ rhetoric surrounding the conflict.<sup>50</sup>

According to Theobald, three aspects of the conflict’s framing were responsible for the conflict’s low intensity.<sup>51</sup>

- The MFDC extensively referred to existing grievances: the central government was presented as exploiting Casamance without reinvesting. Furthermore, the MFDC movement took umbrage with the regional cultures’ belittlement by the northerners.
- The MFDC pretended that there were fundamental differences between the north and the south, and that Casamance had a unique precolonial and colonial history and had constituted a distinctive juridical entity under French rule.
- Critiques—and occasional distortions of—the mistreatment and suffering of Casamance in all domains and on all levels within Senegal. The MFDC compared their situation to the apartheid, genocides in Rwanda and Burundi, and slavery.

Frames that attributed responsibility to the north were credible to many Casamançais. The movement’s framing praised Casamançais culture and history, countering the exclusion and inferiority traditionally attributed to the Casamance in Senegalese culture. The armed movement proposed independence as the only solution to the problems in the region. Through independence, the region would end colonization and occupation.

While the Casamançais identity favored the cultural framing of the movement, most of the population in the Casamance did not agree with the secessionist, nationalistic rhetoric. The Casamançais witnessed the poverty, political violence, and instability that occurred in Guinea-Bissau following its independence. This served as a cautionary example of a possible outcome of the MFDC movement. Eventually, the success of the movement wilted because of three contextual factors.<sup>52</sup> First, the conflict conducted by the *maquis* evolved from a self-defense justification to a contradiction of the MFDC’s image of being a tolerant, multiethnic, and multireligious society. Second, the Senegalese government addressed



cultural and socioeconomic issues in the Casamance, improving its negative image and weakening support for armed conflict. Third, the local population became victims of MFDC violence, delegitimizing the argument that fighting was necessary to provide security for the Casamançais.

### Settlement Process

The first peace accord for a cease-fire was signed between the government and the MFDC in 1991. In 1992, a schism occurred within the MFDC. The northern front agreed on peace with the government, but the southern front, led by Salif Sadio, continued to fight, bringing about a new wave of violence. Peak violence in the Casamance conflict occurred during the 1993 presidential election, when the *maquis* fired rockets at the Ziguinchor airport and conducted a major landmine campaign to discourage voters from going to the polls.<sup>53</sup> The worst of the conflict occurred in 1995 when the second cease-fire agreement failed, due to two attacks against the military and the disappearance of French tourists.<sup>54</sup> The Senegalese military launched a campaign against drug production in the Casamance, sending thousands of troops and resulting in intense firefights with the MFDC.

Another cease-fire helped to decrease the intensity of the conflict, but peace talks failed because of disunity in the MFDC. There was another session of strikes and retaliations in the Casamance in 1997, but open confrontation between the two sides eventually subsided. There were sporadic attacks and fighting in the years that followed, and another cease-fire was signed in 1999. It was short-lived due to attacks by emerging renegade groups that did not acknowledge the MFDC leadership. Political reforms began in 2000 following the election of Abdoulaye Wade, who promised a peace deal, removal of landmines, and economic improvements. A new peace deal designated as a “peace accord” was signed in March 2001 but was postponed indefinitely two months later.

Following the next outbreak of violence in April 2004, the government and the MFDC signed a cease-fire on December 30, 2004.<sup>55</sup> The deal included a pledge by the MFDC to disarm its fighters and renounce armed struggle in favor of political struggle. The government pledged to reintegrate MFDC rebel fighters into paramilitary forces. The accord also included €94 million in reconstruction aid from 19 international lenders. While no major crisis has been connected to the



*Casamance separatist leader Augustin Diamacoune Senghor (R), president of the Movement of Democratic Forces of Casamance (MFDC), shakes hands with Senegalese Interior Minister Ousmane Ngom after the signature of a peace pact 30 December 2004 in Ziguinchor. Photo: Seyllou, AFP via Getty Images.*

beginning of major peace negotiations, the main truces and agreements since 2000 have been connected to deaths of the aging rebellion leaders.<sup>56</sup>

The Casamance peace process was a case study in low levels of time pressure and a high level of complexity.<sup>57</sup> Resolution of the conflict had a high degree of decision-making complexity due to the fragmentation of the rebel movement. Leadership struggles had created many MFDC factions and splinter groups, causing internal dynamics to be confused and without clear aims since the 1990s. Thus, the negotiating MFDC acted more as an umbrella organization for *maquisards* than as a centralized movement. The conflict resolution has been considered less of a peace process and more a sequence of truces.<sup>58</sup>

A conspicuous component missing from the peace agreement, though, was any provision that adequately dealt with efficient resource management. As noted earlier, land (and the resources within the region) are exceptionally vital to the people of the Casamance. Grievances over land were major drivers to the conflict. The failure of the government to address this helped to undermine the peace process.

## Implementation

The phase of de-escalation began in the Casamance before the peace agreement had been signed. There is an argument that the conflict was dying out and the agreement had little to no impact on the conflict.<sup>59</sup> By 2004, the Senegalese government in Dakar mostly regarded the conflict as “a distant problem with few consequences for the elite.”<sup>60</sup> In fact, the Senegalese political system remained almost untouched by the conflict.

To track the implementation of the 2004 agreement provisions, we rely on the qualitative descriptions of the implementation history of this accord provided by the PAM\_ID.<sup>61</sup> In the General Peace Agreement between the Government of the Republic of Senegal and MFDC, the MFDC agreed to give up armed combat.<sup>62</sup> The year 2005 was generally calm, with isolated incidences of rebel violence.<sup>63</sup> The next major episode of violence was from March to September of 2006 when some MFDC splinter groups engaged in low-intensity conflict with the Senegalese government.<sup>64</sup> After September 2006, the Casamance returned to a relatively peaceful region, with occasional episodes of violence instigated by splinter groups. The most recent report of violence between government forces and MFDC factions occurred in 2012. The cease-fire provision was fully implemented in 2013.<sup>65</sup> The Senegalese government agreed to the provision that MFDC rebel fighters be reintegrated into the paramilitary forces.<sup>66</sup> In 2008, the World Bank transferred the demobilization, reinsertion, and reintegration funds to other projects after a lack of progress had been made.<sup>67</sup> The very slow process of disarming factions and demining the region left the feeling that the region remains in a state of “neither war nor peace.”

The omitted resource management provisions allowed for tensions over land disputes to continue. In rural areas, councils created by the 1964 National Domain Law continued to struggle with policy implementations decades later, as interpretation of the law varies by local circumstances.<sup>68</sup> Throughout most of the region, individuals still gain access to land through *adjjati* relationships, though state law and politics do get involved in urban settings like Ziguinchor.<sup>69</sup> A land tenure hybrid system was born from 1960s co-management efforts and resilient customary law. In the new arrangement, the *adjjati* relationship remains important, but allows

space for municipal town planning. The *koudjiati* position has, therefore, become more politicized, but traditional society has accepted this change so long as “the political ambitions of the *adjjati* [do] not result in [their] neglecting [their] obligations towards [their] *koudjaora* [*adjaoura* plural] in favour of the interests of [their] other, ‘immigrant’, followers.”<sup>70</sup> Casamançais feel secure in their land tenure, based on the false assumption that the tenures are legally secure, and that municipal authorities seldom interfere.<sup>71</sup>

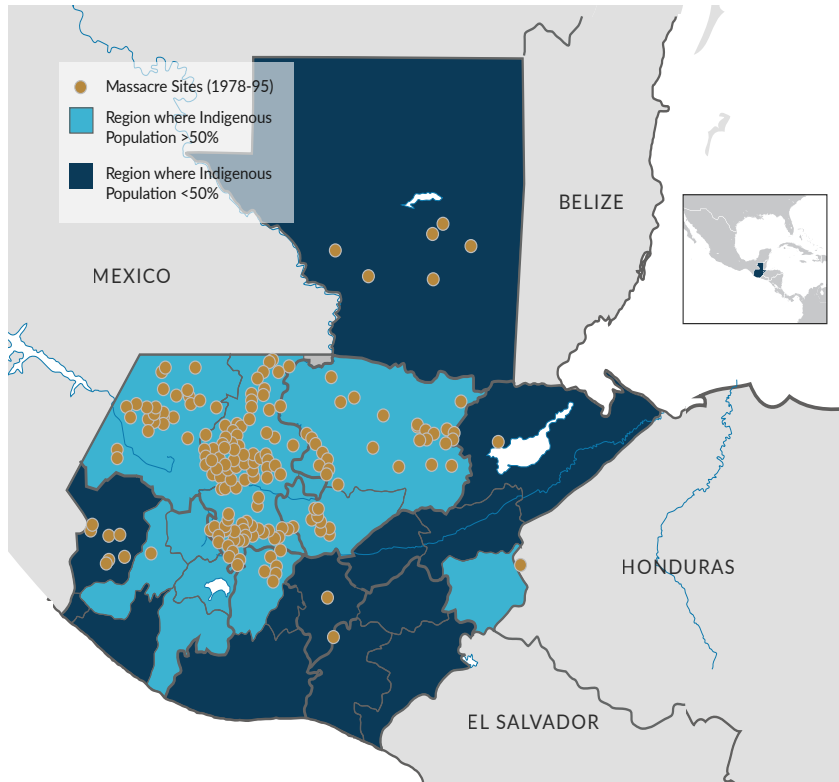
## Guatemala

### Background

The Guatemalan civil war began in the mid-1960s and carried on until the 1990s, when a comprehensive peace agreement was reached in 1996 between the Guatemalan government and the leading rebel group, the URNG. Throughout much of the 20th century, Guatemala was beset by insurgencies and military coups.<sup>72</sup> Starting with the military ouster of the Abenz government, Guatemala suffered a series of low-level left-wing insurgencies, first starting in the capital and then evolving into violence throughout the countryside.<sup>73</sup> Following fierce government repression, multiple armed groups emerged: the Rebel Armed Forces (FAR), the Revolutionary Armed Forces (FAR II), the Guerrilla Army of the Poor (EGP), and the Revolutionary Organization of Armed Peoples (OPRA).<sup>74</sup> As the war dragged into the 1980s, the various armed groups joined forces to form the Guatemalan National Revolutionary Unity (or URNG) rebel group.

While there were numerous other insurgencies throughout Latin America during the latter half of the 20th century (such as in El Salvador, Colombia, Nicaragua, Peru, and Argentina), the conflict in Guatemala was unique in the profound use of state-directed violence against the Guatemalan people.<sup>75</sup> As the various rebel organizations began to solicit support from the historically oppressed indigenous population, the Guatemalan government began to engage in widespread (and largely indiscriminate) mass killings throughout rural Guatemala.<sup>76</sup> Based on reports filed with the Centro Internacional para Investigaciones en Derechos Humanos (or International Center for Human Rights Research), the conflict led to over 37,000 civilian deaths.<sup>77</sup> Though government-led death squads were a common tool in

## GUATEMALAN CIVIL WAR MASSACRE SITES 1978-1995



Adapted from: *Mapping Massacres: GIS and state terror in Guatemala*<sup>119</sup>

certain Latin American insurgencies (see Mason and Krane for more information on El Salvador's war),<sup>78</sup> the scale of the Guatemalan civil war is somewhat unique in its magnitude compared to other conflicts within the region.

The scale of violence could be tied, in part, to the government's harsh reaction to the demands of the Guatemalan insurgents. At the formation of the URNG (the leading rebel group in the last decade of the war), the insurgents stated that they sought significant reforms tied to land ownership, natural resource wealth distribution, indigenous rights, and radical shifts in the political makeup of the Guatemalan state.<sup>79</sup> A review of rebel group demands for all insurgents active during that time period suggests

that these were consistent issues over the course of the conflict.<sup>80</sup> It would, therefore, make sense that these issues would find their way into the eventual peace agreement reached with the Guatemalan state.

### Settlement Process

Given the importance of natural resource wealth to the URNG and (one would assume) to their constituents, it should be of no surprise that issues around the distribution of natural resource wealth played a significant part in the 1996 peace agreement. While these issues are discussed throughout the agreement, the portion of the final draft that discusses this issue the most is the "Agreement on Social and Economic Aspects and Agrarian Situation" and the subsequent chapters within this broader agreement.<sup>81</sup>

Outside of dealing specifically with issues around land ownership, the agreement also attempts to deal with the land rights of internally displaced individuals, rural investment, forestry and fishing rights, and training and technical assistance tied to resource use.<sup>8</sup> With regard to co-management provisions within this agreement surrounding natural resources, there was significant emphasis in the language around establishing local councils and civil society organizations to assist with the decision-making on policies around natural resource wealth (including land, training, forestry, and fisheries management). The agreement specifically states, "Building consensus at the national, departmental and communal levels and among rural and urban units of production is essential in order to stimulate and stabilize economic and social growth. State structures must be

a See chapter III under the sub-agreement, "Agreement on Social and Economic Aspects and Agrarian Situation" as well as chapter IV under the sub-agreement, "Agreement on the Strengthening of Civilian Power and on the Role of the Armed Forces in a Democratic Society."



*Indigenous Guatemalans take part in a march called "For life, land and territory" in 2009, on the 14th anniversary of the agreement on identity and rights of the indigenous people signed at the end of the Guatemalan civil war. Photo: Eitan Abramovich, AFP via Getty Images.*

adapted to fulfill this role of building consensus and reconciling interests."<sup>82</sup>

### Implementation

Despite these detailed provisions, the implementation record for these agreements has been relatively weak. Since the signing of the agreement in 1996, there has been mixed success in the implementation of the natural resource provisions. By the end of 1997, new institutions such as the Land Trust Fund and the National Agricultural Development Bank had sprung up.<sup>83</sup> Similarly, the Guatemalan government finished the

decade by complying with the terms of the agreement to establish new municipal development councils and to increase public spending and social development. Many of the basic mechanisms were, therefore, established to help facilitate more local cooperation within new rural development policies with regard to land use, fisheries stocks, and forestry management.

Unfortunately, when it came to the specifics of restructuring natural resource wealth, the Guatemalan government fell significantly short on the actual implementation of the accord. According to the PAM\_ID implementation history, by 2000 there was still no comprehensive rural development plan in place (an issue that was the cornerstone of the peace process).<sup>84</sup> Part of this issue may be attributed to the fact that the government had to redirect significant resources to deal with the damage from Hurricane Mitch following 1998. Still, many of the basic plans had not taken shape in order to follow through with key provisions of the peace agreement. While the Ministry of the Environment and Forestry was established in 2002 to alleviate some of these problems, the intended beneficiaries still had no access to the new institutions.<sup>85</sup> This clearly muddled many of the core benefits associated with co-management, as local communities were unable to be involved in the decision-making or access promised resources. By the mid-2000s, many of the core promises around land ownership were not only unmet, but rural Guatemalans actually witnessed a reversal in their access to land. Violent evictions increased from 2002 to 2006, leading civil society groups and dispossessed farmers to occupy government offices and even engage in violent attempts to capture large farming operations.<sup>86</sup>

## Papua New Guinea

### Background

The conflict in Papua New Guinea lasted from 1989 through 2001. While technically in Papua New Guinea, the intrastate conflict centered more specifically in the eastern Island of Bougainville.<sup>87</sup> During the latter half of the 20th century, copper deposits were discovered in Bougainville while under Australian governance.<sup>88</sup> Following independence from Australia, private mining companies, in conjunction with the newly formed Government of Papua New Guinea, began the process of expanding mining production on the island (through

## MAP OF PAPUA NEW GUINEA, HIGHLIGHTING BOUGAINVILLE REGION



the newly formed Bougainville Copper Limited, or BCL).<sup>89</sup> The influx of foreign workers, environmental degradation, and shifts in economic inequality as a result of mining spurred significant unrest by landowners near the mining operations. The unrest led to the formation of the Bougainville Revolutionary Army (BRA).

One of the key grievances that initially spurred the conflict was the result of mining practices by the BCL in Bougainville. While environmental degradation as a result of poor mining practices was certainly part of it, there were other critical grievances that had emerged as a result of the mines' opening up on the island.<sup>90</sup> BCL brought in a substantial flow of foreign workers on the island to work in the mines, creating grievances among the indigenous population over the flood of outsiders as well as the perception that foreigners were receiving the benefits of the mines (heightening ethnonationalist issues). Again, these initial grievances evolved into other pernicious grievances associated with the opening of the mine (and control by the Papua New Guinea government as well). As noted by Regan,<sup>91</sup>

While natural resource distribution issues were central amongst the multiplicity of issues and factors contributing to the origins of Bougainville conflict, from the outset they were mixed with others little discussed in most analyses. They included: mine-workers'

perceptions of BCL's unfairness as an employer; broad-based Bougainvillean resentment of outsiders generally, and of their domination of the economy in particular; localised economic inequality; and concerns of marginalised youth in many parts of Bougainville.

As the conflict began, fighting was marked by gross human rights violations committed by both sides. Severe government repression spurred a violent backlash by BRA forces. Rebels targeted many perceived outsiders, but also sought to brutally punish those Bougainvilleans seen as associated with the Papua New Guinea government (e.g., the highly educated or wealthy in communities)<sup>92</sup> and foreign-owned businesses (particularly those with Chinese merchants). Though the initial dispute centered on negative externalities tied to mining, the fighting gave way to greater demands for autonomy and even independence.

### Settlement Process

The process of negotiating and signing an agreement in the conflict was slow and faced significant backsliding. Critical issues involved in the conflict were the management of natural resources on the island, whether the island would receive independence, distribution of reconstruction aid, and long-standing grievances over colonial rule.<sup>93</sup> Despite reaching many initial settlements

(largely process agreements that highlighted needed concessions), discussions devolved over related issues of self-determination (and specific ownership of resource rents from the island). While the government largely conceded the point that Bougainville should receive greater autonomy, there was significant disagreement over how much revenue should be directed to the national government from the island. At the height of mining production in Bougainville, copper production made up close to 17 percent of Papua New Guinea's annual revenue.<sup>94</sup>

The final agreement reached in 2001 (the Bougainville Peace Agreement) addressed many of these critical issues.<sup>95</sup> With regard to self-determination, parties agreed to extensive autonomy for the island with a future referendum on independence (held in December of 2019). The Government of Papua New Guinea would garner revenue from customs taxes as well as company taxes operated on the island. Stuningly, the Autonomous Bougainville Government would be left to manage all other revenue derived on the island (a major concession). One exception to this was the revenue generated from

fishing on the island. As part of the settlement, revenues from fishing by Papua New Guinea in the waters off the coast of Bougainville would be redirected, in part, back to the island. While resources such as copper, gold, and cocoa production have often gained more attention on the island, much of Papua New Guinea's fishing resources are derived from the waters surrounding Bougainville.<sup>96</sup>

### Implementation

Both parties made significant progress in implementing the terms of the agreement (though profound barriers exist). Three years after the signing of the 2001 agreement, the national government devolved significant authority over Bougainville's natural resources to the Autonomous Bougainville Government.<sup>97</sup> With regard to the issue of independence, the Government of Papua New Guinea passed an amendment to the national constitution allowing for a referendum to take place.<sup>98</sup> Such a referendum, though, was keenly tied to the complete disarmament of BRA forces and other militant groups on the island.



*Indigenous communities continue to live around the edge of the Panguna copper mine in Bougainville, Papua New Guinea, which was shut down in 1989. Photo: Catherine Wilson/IPS.*

Critical challenges still exist, though. While reconstruction aid (with considerable foreign assistance) has been budgeted for the island, significant infrastructure damage on Bougainville makes the distribution of the aid more challenging. As infrastructure has improved on the island (particularly with greater development in 2007), there has been a significant increase in new investment.<sup>99</sup> More problematic to the success of the peace process was the prevalence of armed factions that were operating on the island. Francis Ona's faction (one of the first founders of the rebellion) maintained tight control around the Panguna mine (the major mining operation started by BCL).<sup>100</sup> During the initial postwar period, the Autonomous Bougainville Government began explorations in areas outside of Panguna, with new mining operations in other parts of the island. As security has improved on the island, there have been new prospects for opening up the mine. Unfortunately, Ona's faction seems reticent to begin operations, leading to continued negotiations over the reopening of the mine.<sup>101</sup> There is also the chance that mining companies are waiting for the referendum on independence (held in December 2019) before making the initial leap.

While Bougainville's economy is supported by more than just mining, there are a number of hurdles to managing the newly independent economy. Bougainville has the potential to become a major player in international fishing.<sup>102</sup> Currently, Papua New Guinea collects close to 30 percent of its catch from the waters off of Bougainville.<sup>103</sup> Since gaining independence, the new island country will be forced to rework its fishing policies. As part of the settlement, the Autonomous Bougainville Government was given major authority in shaping the policies around resource management. Unfortunately, Bougainville has an exceptionally weak regulatory apparatus (one that is being exploited by mining companies).<sup>104</sup> Similar challenges face the growing cocoa market on the island.<sup>105</sup>

Unlike the peace processes in Guatemala or Senegal, though, the peacebuilding efforts on the Island of Bougainville have largely produced a secure enough environment to build new institutions.<sup>106</sup> This relative stability coupled with significant economic resources has allowed for the emergence of new markets for these goods (fishing, gold mining, etc.). Despite some underlying instability in Bougainville (particularly with regard to active armed groups), it does provide a relatively positive example

in which peace agreements assist with postwar stability. With regard to natural resource wealth management, this peace process is set apart from the other two featured in this report by the degree to which the Government of Papua New Guinea actually *implemented* key provisions around resource management. In efforts to co-manage natural resource wealth, the national government allowed critical institutions to emerge on the Island of Bougainville following the termination of the conflict.<sup>107</sup>

Co-management as included in peace agreements can only work if all parties have the agency to implement the terms of the agreement. This may be one reason why left-wing rebel groups—those with the greatest interest in resource distribution—help to establish a peaceful agreement when they have some agency in the national government (see Technical Appendix for more details). One critical limitation to the Guatemalan and Senegalese cases was the failure of the state to effectively empower local actors to manage (and benefit from) natural resources. The agency of local actors is, therefore, critical to the success of co-management efforts (particularly in contentious peace processes).

## V. CONCLUSION

Taken together, the findings of this study provide a complex picture around co-management. In and of itself, co-management is not sufficient to ensure that peace processes are durable. Co-management requires that rebel groups have a vested interest in the equitable distribution of natural resources. This is not a surprising result. If rebel groups are solely motivated by greed or simply seek a position within the national government, then the equitable distribution and management of resources should be of little concern for them. On the other hand, if the group has promised their constituents that, once in power, they would ensure revolutionary reforms around land, fisheries, or mining wealth, then they will likely experience a backlash if they do not ensure such provisions are implemented. Co-management as a peacebuilding mechanism, therefore, requires that parties have a vested interest in the success of such provisions.

*Co-management as a peacebuilding mechanism requires that parties have a vested interest in the success of such provisions.*

Absent a rebel group that earnestly seeks such reforms, co-management may still be an effective part of peace agreements. As many fragile and conflict-affected countries depend heavily on resource wealth (broadly defined), there may be simmering issues around how such wealth is managed. Comprehensive peace agreements often represent an excellent opportunity to foster broad change within society, outside of the context of the conflict itself.<sup>108</sup> Representatives from civil society may thus advocate for these changes as part of a peace process. While these benefits may assist in improving war-torn communities, policymakers should not expect that these reforms will ensure that rebel groups will abide by the terms of the settlement. As noted earlier, these reforms work best at preserving peace when rebels have a vested interest in them. While these reforms may be best for society, they may not be sufficient to preserve peace between combatants.

Finally, co-management produces the most durable peace when the government follows through on devolving authority to local communities. In other words, *cooperative* management requires *cooperation*. Our case studies show that instability can (re-)emerge when the national government fails to empower local groups to take agency in the management of resources. Even in places where there was no resumption of fighting (e.g., Guatemala), significant instability emerged from disaffected communities unhappy over the failure of the government to live up to the promises it made as part of the peace process. One key barrier to peace accord success is the fact that groups or individuals that have previously benefited from the status quo have little interest in reforming the system. Keels and Mason note that this is one reason why land reforms are often not implemented.<sup>109</sup> The international community should expect such a challenge with any reforms around natural resources once the peace process is under way. This also indicates the need for prolonged engagement around peace processes. As governments may essentially *slow-walk* such reforms until observers leave, persistent monitoring over 10 or more years will help ensure that all parties live up to their responsibilities as part of the settlement.



# TECHNICAL APPENDIX

## Research Design

To assess the role that natural resource management provisions play in shaping the durability of postwar comprehensive agreements, we investigated how the inclusion of such provisions affects the risk of renewed fighting by signatories to peace accords. Our sample of comprehensive peace agreements is drawn from Joshi, Quinn, and Regan’s Peace Accords Matrix Implementation Dataset (or PAM\_ID).<sup>110</sup> The PAM\_ID provides detailed information on the content of peace agreements as well as the degree of implementation. The data set spans 1989–2013 and includes 34 agreements (with up to 51 provision types). As we are concerned with the risk of renewed fighting by participants, our primary dependent variable was *renewed fighting by signatories of the agreement*. Given that agreements may have multiple signatories, this approach allows us to isolate organizational-level factors when examining whether provisions reduce the risk of renewed fighting (or exacerbate wartime tensions). Similarly, while signatories of an agreement may abide by the terms of the settlement, splinter groups may emerge to contest the terms of the accord (such as the FRUD-AD in Djibouti). When examining the risk of renewed fighting, we included these returns to war by splinter factions. Finally, building on Keels and Mason, we estimated our models using a Weibull accelerated time to failure (ATF) model.<sup>111</sup> Coefficients predict how variables of interest increase (or decrease) the time until fighting resumes between combatants. In other words, models will predict whether our variables of interest increase or decrease peace duration following armed conflicts.<sup>b</sup>

Unfortunately, as noted by Keels and Mason, while the PAM\_ID includes many different provisions that deal with natural resources (such as land reforms), they are not consistently coded across the data set. The data set also does not include detailed data on (1) which provisions are intended to manage natural resource wealth and (2) the type of management that has been employed by the provisions. To address these shortcomings, we coded for these factors for all peace agreements included in the PAM\_ID. Researchers classified provisions that dealt with natural resources (such as agriculture,

mineral wealth, fisheries, forestry, etc.) as one of three forms: devolved authority to the local level, maintained national-level control, or shared management through co-management of provisions. This process yielded three key variables. The variable *Local Resource Management* measures whether peace agreements included provisions that specifically gave control of natural resources to subnational governments or to newly independent states (such as East Timor). *National Resource Management* measures whether the national government maintains oversight of the development and distribution of natural resources. Finally, our variable *Co-Management of Resources* measures whether mechanisms have been established as part of the peace process where national governments must cooperate with subnational entities—such as subnational government agencies or community organizations—in the management of resources. As management approaches may differ based on the provision, these variables are operationalized as counts of the number of management approaches that are included in the peace agreement. Given that ambiguity may play a critical role in undermining the efficacy of these provisions, we also include the logged total word count for each of these provisions as a proxy for the detail given in managing resource provisions.

It may also be the case that rebel goals play a critical role in the efficacy of resource management approaches. Rebels that mobilize support based on the equitable distribution of goods and services may have a vested interest in the provision of these resources. On the other hand, groups that are indifferent to how resources are provided may be unaffected by the types of resource management provisions that are included in peace agreements. To account for this, we include a measure for whether signatory rebel groups maintain a left-wing ideological position. As left-wing ideological goals are often deeply concerned with the equitable distribution of land and economic wealth, this measure acts as an appropriate proxy for rebel concern over how natural resource wealth is being managed as part of the peace process.<sup>112</sup> Data on rebel ideological stances are derived from data sets of Keels and Wiegand and from Polo and Gleditsch.<sup>113</sup> For each natural resource management approach, we include a conditional variable where we interact rebel left-wing ideological goals with the type of management provision included in the agreement.

<sup>b</sup> We replicate our findings also using a Cox proportional hazards model with time-corrected variables. Our results remain largely consistent.

Finally, we include a number of control variables for our analysis. As civil war dynamics shape the willingness of government and rebel forces to abide by the terms of the agreement, we control for the intensity and duration of the previous armed conflict.<sup>114</sup> These data are drawn from the UCDP Conflict Termination Dataset.<sup>115</sup> We also include controls surrounding rebel group characteristics. Our models include controls for rebel group strength, whether the rebel group sought a self-determination claim, and whether the rebel group claimed to represent an ethnic group.<sup>116</sup> Finally, models include controls that account for national characteristics as well as peace agreement controls. Models include controls for regime type as well as economic development (World Bank).<sup>117</sup> Similarly, we

include a control for total natural resource wealth in a country. This indicator, “agriculture, forestry, and fishing value added (as a percentage of GDP),” is drawn from the World Bank Economic Indicators.<sup>118</sup>

## Results

The results from the analysis can be found in Table I. Model 1 examines the risk of civil war recurrence without accounting for the resource management provisions. Model 2 includes the resource management provisions as well as the relevant controls. Model 3 adds to the analysis by accounting for the modifying effect of left-wing ideological goals on the various resource management

TABLE I. MAIN RESULTS

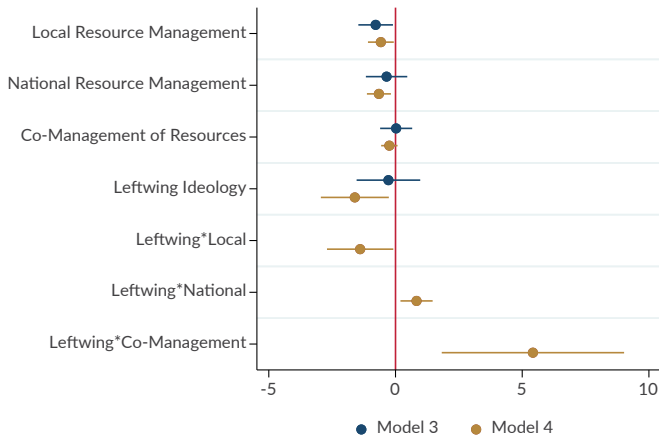
Time to Civil War Recurrence Weibull AFT	Model 1	Model 2	Model 3	Model 4
Local Resource Management		-0.78** (0.35)	-0.58** (0.26)	-0.60** (0.25)
National Resource Management		-0.35 (0.42)	-0.65*** (0.24)	-0.62*** (0.21)
Co-Management of Resources		0.026 (0.32)	-0.24 (0.17)	-0.25 (0.19)
Leftwing*Local			-1.40** (0.67)	-1.45*** (0.51)
Leftwing*National			0.83** (0.32)	0.89*** (0.28)
Leftwing*Co-Management			5.42*** (1.84)	4.21*** (1.88)
Implementation of Resource Provisions		0.051 (0.22)	-0.019 (0.19)	0.064 (0.21)
Resource Provision Detail		-0.0021 (0.14)	0.13 (0.095)	0.089 (0.063)
Total PA Provisions	0.15*** (0.038)	0.11*** (0.019)	0.13*** (0.015)	0.19*** (0.060)
Territorial Incompatibility	0.90** (0.44)	1.21 (1.02)	0.42 (0.44)	1.45 (1.04)
Rebel Strength	0.20 (0.19)	0.047 (0.27)	-0.00098 (0.27)	0.011 (0.11)
Conflict Intensity	-1.10*** (0.28)	-1.23*** (0.47)	-1.12*** (0.41)	-0.94 (0.62)
Civil War Duration	0.070 (0.045)	0.056 (0.041)	0.098** (0.043)	0.079 (0.072)
Leftwing Ideology	-0.39 (0.55)	-0.28 (0.64)	-1.60** (0.68)	-1.55** (0.67)
Ethnic Claim	-1.20* (0.66)	-0.92** (0.38)	-0.26 (0.31)	-0.63 (0.43)
Logged GDP per Capita	0.88*** (0.28)	0.74*** (0.19)	0.80*** (0.18)	0.74** (0.34)
Democracy	0.55 (0.49)	0.79* (0.45)	0.41* (0.23)	0.25 (0.41)
Natural Resource Wealth (logged)	-0.46* (0.24)			-0.41*** (0.15)
Constant	-4.93 (3.11)	-4.18** (1.74)	-5.38*** (1.69)	-5.07 (3.32)
Observations	494	516	516	494
$P$	1.82	1.99	2.47	2.82
Wald Chi <sup>2</sup>	151.80***	330.41***	613.99***	1983.01***

Robust standard errors in parentheses. Clustered on civil war dyad.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

approaches. Finally, Model 4 replicates the results of Model 3, but while also accounting for the relative value of natural resource wealth to the economy. All models are estimated with robust standard errors that are clustered on the civil war dyads.

FIGURE A1. COEFFICIENT PLOTS FROM TABLE I

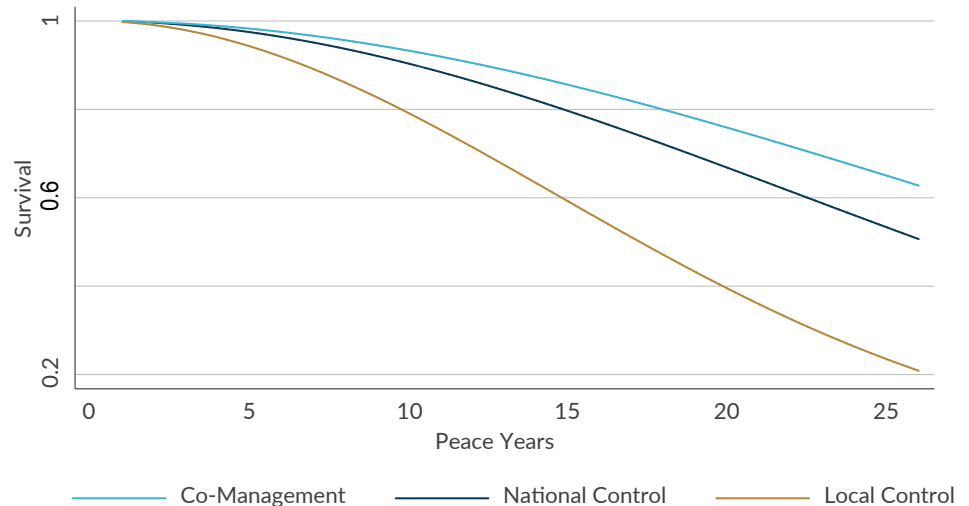


As illustrated by the findings in Models 2–4, both natural resource wealth provisions that devolve authority to the local level as well as provisions that help maintain national control significantly decrease the time to renewed fighting (thereby increasing the risk of civil war recurrence). This finding suggests that disputes over the control of natural resources plays a critical role in undermining the fragile postwar peace process. National resource wealth provisions that concentrate power in the hands of the national government may reignite wartime tensions, as aggrieved communities may have hoped that the peace process would lead to a more equitable distribution of resource rents or the provision of land. The results clearly demonstrate, though,

that simply devolving authority to the local level is by far no panacea. Rather, the results consistently demonstrate that local-level control also increases the risk of renewed fighting. This may result from dissatisfaction within the national government over a subnational monopoly on resource rents in contested areas. Interestingly, while co-management provisions appear to not significantly increase the risk of renewed fighting (decreasing the time to civil war recurrence), this approach to resource management plays little or no role in the prolonging of peace. These results are illustrated in Figure II with survival curves. Specifically, the curves estimate the predicted life span of settlements over time, where steeper curves indicate a decrease in the number of active settlements. Local-level natural resource management provisions experience the sharpest decline in predicted survival.

These results change significantly when we account for the conditional effects of rebel left-wing ideology on natural resource management. Specifically, the inclusion of co-management provisions in peace agreements when governments are negotiating with left-wing rebel groups significantly increases the duration of peace. A similar result emerges when looking at the modifying effect of rebel group ideology on national-level control over resources. Though national-level management approaches increase the risk of renewed fighting, when governments negotiate with left-wing rebel groups, national-level mechanisms significantly increase the duration of peace (though the effects are significantly

FIGURE A2. SURVIVAL OF PEACE PROCESSES



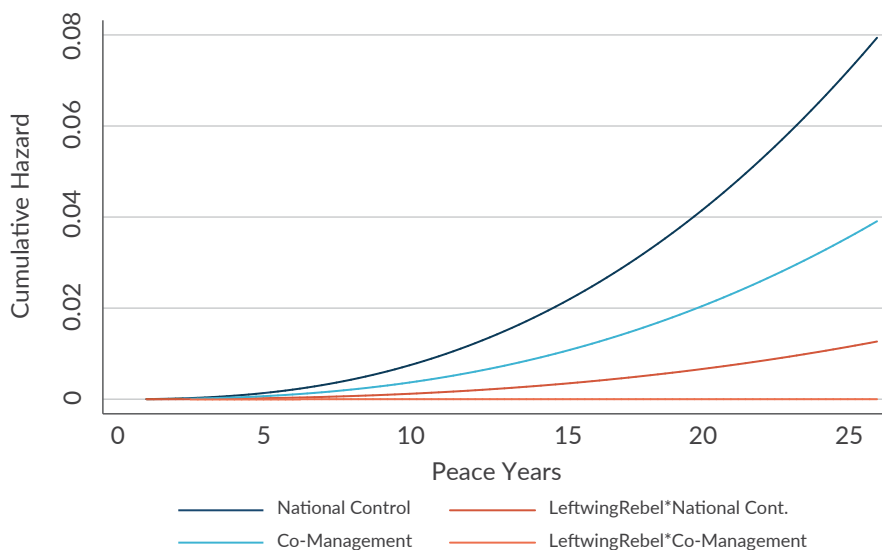
weaker compared to the effects of co-management). The effects of left-wing ideological goals are not universally positive, though. Local-level control of natural resources becomes even more deleterious when rebels maintain a left-wing ideological orientation. This suggests that the positive effects of rebel groups' seeking to manage the redistribution of wealth are tied to engaging with a national government in some way. To illustrate these effects further, we have calculated the cumulative hazard of renewed fighting over time. As underscored by Figure III, the risk of renewed fighting increases more sharply for both national and co-management provisions when rebel groups do not maintain aspirations for the redistribution wealth. It should be noted that the relative risk of renewed fighting remains at effectively zero for rebel groups that maintain a left-wing ideology and that are included in a co-management agreement with the government over natural resources. In other words, under those circumstances the models suggest that there is little or no chance that fighting will resume.

The control variables in the analysis also point to some interesting findings. Unsurprisingly, more intense armed conflicts have the shortest periods of peace (leading to renewed fighting). While there is some evidence to suggest that civil war duration plays some role in prolonging peace (fitting into the classic *hurting stalemate argument*), these effects prove to be rather weak across

all models. On the other hand, national wealth (and state capacity) is a major predictor of long-term stability in postwar peace processes. This may tie into the ability of states to monitor and follow through with the terms of the settlement. The effects of national wealth also tie in part to the effects of natural resource wealth on the peace process. States that are overly reliant on natural resource wealth are significantly more likely to experience renewed fighting. This finding underscores the importance of how peace agreements attempt to manage natural resources in the postwar environment, particularly for weaker governments that do not have a diversified private sector.

Along similar lines, the scope of peace agreements plays a significant (and consistent) role in promoting durable postwar peace. The more provisions included in peace agreements, the longer the predicted peace duration. While positive, the broader findings (particularly around the management approach) indicate that this result should be taken with some caution. As illustrated by national- and local-level resource management provisions, *how* these provisions are drafted may have significant effects on the ability of peace agreements to offer meaningful stability. Similarly, the relative interest rebel groups have in the distribution of resource wealth also plays a critical role in the efficacy of these provisions.

FIGURE A3. RISK OF CIVIL WAR RECURRENCE



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Secure Fisheries is a program of One Earth Future. Secure Fisheries works with local, regional, and international stakeholders to strengthen fisheries governance, combat illegal fishing, and promote sustainability in fragile and post-conflict regions as a pathway towards greater peace and stability.

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