Paul Thissen
Sara Ansari

Impact evaluation of the UN Secretary-General's Peacebuilding Fund-supported East Darfur Assalaya-Sheiria-Yassin Triangle of Peace and Coexistence project

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Paul Thissen
3ie

Sara Ansari
3ie

Evaluation Team:

Elsadig Idris Abdelsalam Mohammed Zin
3ie

Rwida B Matar
3ie & Ahfad University for Women

Alaa Abdalghani Abashr Alhaj
3ie

Sebastian Martinez
3ie

Lame Ungwang
International Security and Development Center

Neil Ferguson
International Security and Development Center

International Organization for Migration, Displacement Tracking Matrix (DTM)

Sudan Secretariat
United Nations Secretary-General's Peacebuilding Fund

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The opinions expressed in this report are those of the authors.

Disclaimer

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Summary

Darfur, Sudan, is a region that has witnessed high levels of violent conflict for more than two decades. It also shares many challenges with other parts of the Sahel where resources are scarce and governance is weak. In 2020, as Sudan's political space opened up after the fall of Omar al-Bashir's regime, the UN Secretary-General's Peacebuilding Fund (PBF) invested over $20 million in projects aimed at addressing local conflict drivers in Darfur. The PBF-supported projects aimed to enhance good governance, provide durable solutions for the return of displaced people, and avoid further escalation of inter-communal disputes into violent conflict.

The intervention included a bundle of activities, including support for committees to resolve land disputes, provision of basic services, and support for an inclusive civil society, among others. It was implemented by a consortium of UN agencies—FAO, IOM, UNDP, UN-HABITAT, UNHCR, and UNICEF—and work was completed in mid-2022 despite security challenges in some parts of Darfur and national political upheaval late in implementation.

A year after the end of the projects in June 2022, war has returned to Darfur, as the conflict between the Rapid Support Forces and the Sudanese Armed Forces affects all of Sudan. Despite this macro-level conflict, it is still important to understand what local-level effects the PBF-supported interventions had on their target communities. More broadly, these bundled types of intervention have become increasingly common in recent years, but virtually no impact evaluation evidence exists about their effectiveness. To that end, this report presents an impact evaluation of the PBF's project in East Darfur.

According to our analysis, the PBF-supported project in East Darfur yielded positive effects on its target communities. The project reduced the number of land conflicts and increased residents' perceptions of the effectiveness of local peace committees, as compared to villages where no PBF-supported projects were implemented (90 percent confidence). The reduction in land conflicts represented about one fewer conflict for every 14 households—a meaningful amount, given that three quarters of households never had a land conflict to begin with.

For members of a minority tribe, there was a much bigger reduction in the number of conflicts: one fewer conflict for every four households. The project also increased school enrollment, meaning that a child in a PBF implementation village was 11 percentage points more likely to be enrolled in formal schooling (95 percent confidence). The project also increased residents' satisfaction with services, particularly administrative and sanitation services (95 percent confidence). A more tentative result suggests the project may also have increased women's perceptions of their voice in local decision-making. These results align with what residents told our research team in interviews: PBF-supported peace committees led to reconciliations, and the improved services reduced local sources of conflict.

This analysis is based on a rigorous quasi-experimental research design utilizing fine-grained household survey data collected in communities where PBF-supported projects were implemented and in those where they were not. Although PBF-supported projects were implemented across all five states of Darfur, our impact evaluation focuses only on

East Darfur, because it was the only state where implementation patterns and available baseline data met the technical requirements for an impact evaluation. Both baseline and endline data were collected by enumerators from IOM's Displacement Tracking Matrix team. Our endline data, collected in February and March 2023 before the war began, includes surveys from 3,512 individuals from 2,376 households.

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List of acronyms

3ie	International Initiative for Impact Evaluation
ACLED	Armed Conflict Location and Event Data Project
ANCOVA	Analysis of Covariance
C4D	Communication for Development
DTM	Displacement Tracking Matrix
FAO	Food and Agriculture Organization
GAO	Government Accountability Office
HHs	Households
IDP	Internally Displaced Person
IOM	International Organization for Migration
ISDC	International Security and Development Centre
JEM	Justice and Equality Movement
JIPS	Joint IDP Profiling Service
OECD	Organization for Economic Cooperation and Development
PBF	United Nations Secretary-General's Peacebuilding Fund
PBSO	Peacebuilding Support Office
PeaceFIELD	Peacebuilding Fund Impact Evaluation, Learning, and Dissemination
RSF	Rapid Support Forces
SAF	Sudanese Armed Forces
SLA	Sudan Liberation Army
UN	United Nations
UNAMID	United Nations African Union Mission in Darfur
UNDP	United Nations Development Programme
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNITAMS	United Nations Integrated Transition Assistance Mission in Sudan
WASH	Water, Sanitation, and Hygiene
ZOA	Zuid-Oost Azië International

1. Introduction

As we write this report, war is ongoing in Darfur. Four years ago, at the origins of the project evaluated herein, the situation was different: The 30-year rule of former Sudanese President Omar al-Bashir had just ended and Sudan's political space was opening up. In this context of political transition, the UN Secretary-General's Peacebuilding Fund (PBF) invested in projects across Sudan.

In Darfur, the PBF supported peacebuilding interventions targeting local conflict drivers, with a bundle of components to address land conflicts, provide basic services, and support civil society. These projects were implemented from January 2020 through June 2022 amid a period of considerable political transition and instability in Sudan. Using endline data collected in early 2023, just before the outbreak of the war between the Sudanese Armed Forces (SAF) and the Rapid Support Forces (RSF), this report evaluates whether these PBF-supported interventions effectively reduced local land conflicts and addressed other local conflict drivers.

Our results show that the PBF-supported projects reduced the number of local land conflicts, increased perceptions of the effectiveness of peace committees, increased school attendance, and improved perceptions of sanitation and administrative services. The first two results (on land conflict and peace committees) are significant at the 90 percent level; the remainder are significant at the 95 percent level.

These quantitative results are corroborated by detailed interview data explaining how conflicts were resolved by PBF-supported peace committees; but in villages without such support, conflicts over land lingered. These findings suggest that peacebuilding interventions such as those implemented by the PBF in Darfur can reduce local conflict levels, even in a context of national and subnational political instability.

Worldwide, achieving the international community's goals for peace and poverty reduction requires addressing the needs of people in the world's most fragile contexts. In 2022, 73 percent of people living in extreme poverty worldwide lived in fragile contexts, although such areas are home to only 23 percent of the world's population (OECD 2022). In turn, international organizations including the World Bank, the UN, and national donors have stepped up their support for interventions in fragile contexts (World Bank 2020; UN News 2021).

Many of the peacebuilding needs in Darfur have origins in conflicts that broke out in 2003. That year, rebel groups opposed to Bashir's rule—the Justice and Equality Movement (JEM) and the Sudan Liberation Army (SLA)—attacked government installations in Darfur. Paramilitary groups allied with and supported by Bashir (referred to as the Janjaweed) retaliated with violence (Flint and de Waal 2008).

From 2003 to 2005, between 63,000 and 370,000 people died as a result of the conflict, with the differing numbers resulting from differing methodologies and measurement challenges (GAO 2006). Many more people were displaced. This phase of the conflict was marked by splintering rebel groups and shifting alliances between armed group leaders. Furthermore, several armed groups were active just across the porous border with Chad during this period, leading to cross-border alliances and support between armed groups (Flint and de Waal 2008).

The conflict cooled and related deaths declined after the Bashir government signed peace agreements in 2006 with SLA leader Minni Minnawi and in 2007 with then-Chadian President Idriss Déby (Kessler 2006; Reliefweb 2007). Also, in 2007 the joint United Nations African Union Mission in Darfur (UNAMID) deployed peacekeeping troops to the region, where their mandate would last until 2020 (Magdy 2020).

Still, the peace agreements did not sufficiently address underlying root causes of conflict, and violence continued at lower levels, even after another peace agreement with more rebel groups was signed in 2011 (ACLED 2023). Deaths spiked again in 2013, with battles resulting both from armed groups challenging the state and from armed groups fighting each other. Although the number deaths and conflict events declined after 2016, the wounds from years of war remained raw, and many of the underlying disputes about land and power remained unresolved (Tubiana 2022).

Following the fall of the Bashir regime, Sudan entered a period of transition. In October 2020, the government and several rebel groups including the Sudan Liberation Army (Minni Minnawi faction) and the Justice and Equality Movement signed the Juba Peace Agreement. This included provisions to assemble a joint security force for Darfur, constituted of government and rebel personnel, to replace departing UNAMID peacekeeping troops.

However, implementation of the agreement faced challenges, and the implementation of the joint security force was delayed (Tubiana 2022). The agreement also did not include all rebel groups: neither the Sudan People's Liberation Movement–North (al Hilu faction) nor the Sudan Liberation Army (Abdel Wahid Al Nur faction) signed the agreement, and the latter continued to hold territory near Jebel Marra (PBF 2021).

Also, despite the peace agreement, clashes continued in North, South, and West Darfur. Between the fall of Bashir in 2019 and the October 2021 coup, clashes killed hundreds in West Darfur and dozens in South Darfur, and led to the displacement of 35,000 in North Darfur (Tubiana 2022). In East Darfur, the situation was calmer, but tensions remained. In the portion of East Darfur where the PBF implemented projects, conflict had historically been driven by issues of access to land, water, and resources by different pastoralist tribes (the Rizeigat Arab and Misseriya Arab tribes) and sedentary farmer tribes (the Zaghawa and Ma'aliya Arab tribes) (JIPS 2021).[1]

In this context, the PBF-funded projects in Darfur began in January 2020 to address the drivers of conflict and the needs of people affected by earlier waves of violence. The projects were designed to strengthen rule-of-law institutions, build communities' abilities to resolve conflicts peacefully, provide basic services, and set up mechanisms to manage common natural resources, among other objectives (PBF Sudan 2019a–e). Noting that much of the violence in the region had stemmed from land conflicts, the projects placed a particular emphasis on resolving land disputes and creating structures to clarify questions of land access.

[1] These classifications of tribes come from the Joint IDP Profiling Service and should be viewed as general descriptions; "sedentary farmer" tribes also herd livestock, and "pastoralist" tribes also engage in sedentary agriculture.

These types of interlinked multi-agency projects—which aim to improve basic services, enhance governance, clarify property rights, and address the numerous needs of the displaced, their hosts, and returnees—have become increasingly common in recent years, particularly in the Sahel. In some cases, individual project components are implemented on their own, such as support for local dispute-resolution mechanisms (Blair et al. 2022; Bolton 2020; Hartman et al. 2019; Reardon et al. 2022). In other instances, projects include bundles of components like the PBF-supported interventions here (Lichtenheld 2022; PBF 2020; Tesfaye et al. 2018; Thissen et al. 2020). As donors and implementers look to design projects that target issues across the triple nexus of humanitarian, peacebuilding, and development needs, it is important to understand what approaches are effective.

However, evidence about the effectiveness of this bundled type of programming is scarce (Sonnenfeld et al. 2020; Cramer et al. 2016; Blattman and Miguel 2010). There is some new evidence indicating that support for dispute-resolution mechanisms in the form of mediation training or information access has positive effects for leaders and communities (Blattman et al. 2014; Blair et al. 2022; Hartman et al. 2021; Reardon et al. 2022; Ullah and Hussain 2023). Evidence is mixed for “community-driven development/ reconstruction” programs with development-oriented goals that typically include institution building with community-level mobilization and training (Fearon et al. 2015; Mvukiyehe and van der Windt 2020; White et al. 2018; King and Samii 2014; Humphreys et al. 2014; King et al. 2010).

Some existing research touches on related topics, finding that UN peacekeepers can be effective (Walter et al. 2021); that the presence of UN peacekeepers can facilitate cross-ethnic interactions, pro-social behavior, and political engagement (Mironova and Whitt 2017; Mvukiyehe 2018; Nomikos 2022); and that the presence of UN representatives can increase trust in security institutions (Matanock and Garbiras-Díaz 2019).

Other work shows that both standalone contact-based interventions or bundled interventions can improve social cohesion (Brune and Bossert 2009; Fearon et al. 2009; Lichtenheld et al. 2022; Moussa 2020), although some truth and reconciliation efforts in Sierra Leone simultaneously increased social capital and worsened psychological health (Cilliers et al. 2016).

A different set of research details how the everyday practices of intervening organizations' international staff can impede or change the effectiveness of peacebuilding programming (Autesserre 2014, 2017; Boege and Rinck 2019). Still, none of these studies examine projects specifically targeting land conflict, evaluate similar interventions by a large consortium of UN agencies, or measure land conflict as an outcome.

Our evaluation begins filling this evidence gap, measuring the effects of the PBF-supported intervention in East Darfur on a range of outcomes including land conflicts, service provision, and social cohesion. The remainder of the report proceeds as follows: First, we outline the background of PBF-supported interventions in Darfur. Second, we describe our overall research design and village selection process. Third, we present our specific impact evaluation research design and data collection process. Next, we present our results. We close with a brief discussion and conclusion.

2. The UN Peacebuilding Fund in Darfur

Starting in early 2020, the PBF allocated nearly $20 million to projects across the five states of Darfur. The goal of these projects was to support peace by enhancing good governance, strengthening local institutions' abilities to resolve conflicts peacefully, and creating conditions in which communities had physical security and access to basic services. The interventions placed a particular emphasis on resolving the land conflicts of displaced people and returnees.

Although these interventions were separated into five separate state-level projects for administrative purposes (one for each state of Darfur), they were originally designed with a common approach and theory of change.[2] The projects were implemented by a consortium of UN agencies: FAO, IOM, UNDP, UNHCR, UN-HABITAT, and UNICEF. Each agency took responsibility for intervention components that fell within their mandates. Timed to start as UNAMID withdrew its troops, the projects were a part of the UN's broader efforts to build peace across Sudan and support the transitional government.

Five months after the launch of the projects, the UN Security Council approved the UN Integrated Transition Assistance Mission in Sudan (UNITAMS), for which one strategic objective was "assisting peacebuilding, civilian protection and rule of law, in particular in Darfur [and elsewhere]."[3] The agencies implementing the projects also made up the Durable Solutions Working Group for Sudan, which worked to champion effective joint efforts to build peace and resolve issues related to protracted displacement.

The projects were designed as a bundle of intervention components to address the drivers of local conflicts in Darfur. They were organized around three outcomes:

> *"Outcome 1: Durable solutions for the return of IDPs and refugees are made possible by peaceful resolution of land disputes, and sustainable land and natural resource management facilitates enhanced agricultural productivity, processing and value-chains to create jobs and improve livelihoods.*
>
> *Outcome 2: The social contract between Government and the people is restored and renewed: armed groups are disarmed, demobilized and reintegrated into society; freedom of movement and physical security is taken for granted by men and women, and the rule of law is perceived to be applied without fear or favour; quality basic services are accessible to all, and all feel a stakeholder to their provision.*
>
> *Outcome 3: A culture of peace and rights is nurtured and sustained in Darfur by a vibrant civil society with the commitment and capacity to represent the interest of all stakeholders in the resolution of disputes, and in holding Government to account for maintenance of the social contract"* (PBF 2019a).

[2] Personal communication from PBF Secretariat, June 2021

[3] United Nations mandate, accessed on January 3, 2024: https://unitams.unmissions.org/en/mandate. As of the release of this report, the UNITAMS mandate has come to an end and drawdown is continuing. https://reliefweb.int/report/sudan/security-council-terminates-mandate-un-transition-mission-sudan-adopting-resolution-2715-2023-vote-14-favour-1-abstention.

The projects' theory of change, as depicted in Figure 1, focuses on a rights-based approach. It integrates multiple disparate project components to address the many needs of target populations in Darfur. Different specific intervention pieces, including service provision, support for local dispute-resolution structures, and efforts to empower marginalized groups, are linked in this theory of supporting local-level peace. All project components target the needs of the displaced, returnees, and host communities.

Based on these target outcomes and this theory of change, UN agencies split up activities in each state based on their mandates and on operational considerations. The specific activities implemented in each village or locality also depended on the specific needs of that location. (As an illustrative example, see Table 1 for the list of activities planned for a single village in East Darfur.) Furthermore, targeting decisions by different implementing agencies varied in some states, meaning that in some locations, programming was only implemented by one or two agencies. Nonetheless, the intention of the projects was to combine a set of interventions which would promote peace by addressing the needs of the displaced and those who had returned.

While Table 1 represents all planned activities for one village, many of those activities were never implemented; those marked with a * had not started in that specific village as the project was closing, and it is possible that not all other activities were completed. Documents from implementing agencies indicate that many activities were scaled back due to a wide range of challenges associated with operating in Darfur. The specific activities that were implemented, or cut, varied from one village to another. The details of specific activities, as well as which ones were eliminated, depended on the needs and conditions of each village.[4]

The most granular data recorded by implementing agencies did not list every fully implemented project activity by village. These records also differed by implementing agency and village. Nonetheless, our consultations with on-ground partners as well as through round one of data collection (discussed further in Section 3) showed many common types of project activities across treatment villages. Additional information on these activities and their implementation is available in Appendix 9.

We consider a village as “treated” if it was selected as a PBF implementation village, recognizing that the details of exact activities in that village then depend on the specific issues in that location. All seven implementation villages in our sample received implementation from at least four of the implementing agencies, and many received implementation from all six. This broad conceptualization of treatment is appropriate given the theory of change outlined above, which we have adapted into the following five research hypotheses, as specified in our pre-analysis plan:[5]

H1: Treatment villages will be less conflict-prone.

H2: Residents of treatment villages will be more satisfied with services.

H3: School attendance rates among school-age children will be higher in treatment villages.

[4] Implementation documents, personal communications with staff at implementing agencies.

[5] Study ID# RIDIE-STUDY-ID-61e939dc72499 in the Registry for International Development Impact Evaluations

H4: Returnees in treatment villages will be less likely to expect to move.

H5: Local decision-making will be more participatory.

Figure 1: PBF Darfur theory of change, from project documents

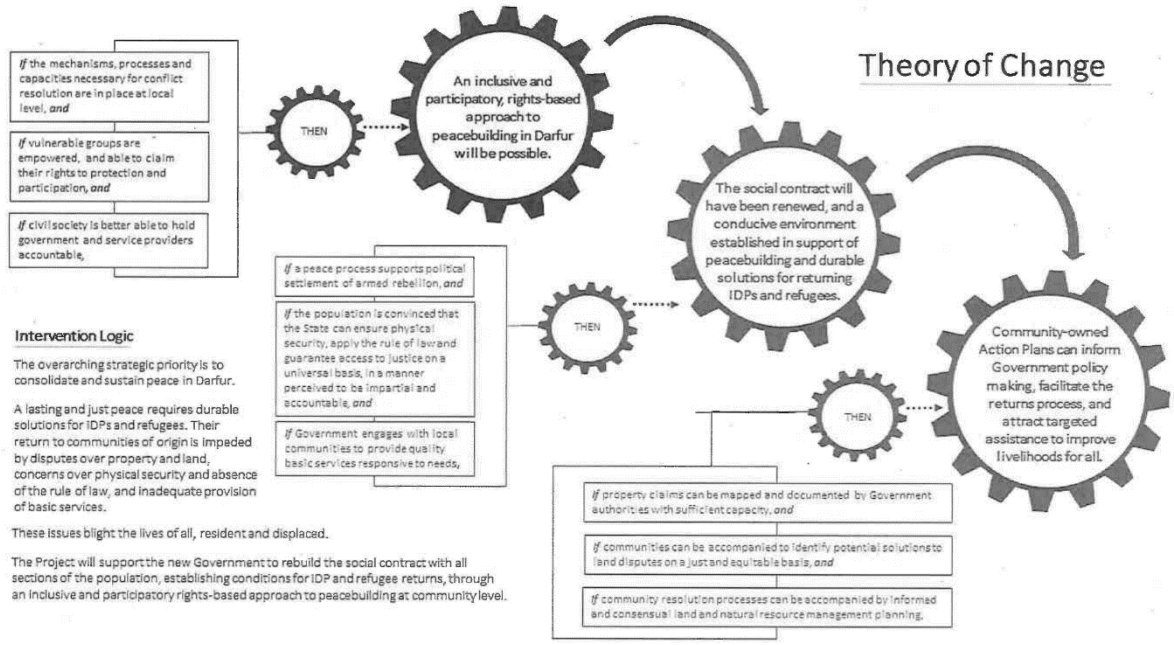


Table 1: Activities planned for Mali village, East Darfur

UNDP	• Establish one land-steering committee and arbitration committee. • Create income-generating activities for 30 women. • Train and equip 10 youth on vocational skills development. • Form one natural-resource-management committee & 10 farmers adopt farmer-managed natural regeneration. • Conduct joint and participatory conflict and gender assessment. • Construct prosecutor's office in Assalaya town and train paralegal. • Reactivate community-based reconciliation mechanisms. • Conduct community peace dialogue forums and peace conferences. • Train at least 30 women on women's rights to increase their participation in peace processes. • Provide small grants for 25 women in microfinance associations. • Construct prosecution office. • Construct police post. • Undertake activities to reinforce governance systems at the local level (develop / review guidelines on engagement between Ministry of Justice / local government authorities and local traditional authorities / governance forums and building capacities of civil society organizations.* • Train civil society organizations on human rights-based approaches.* • Train Sudanese police force officers on child & women's rights, command & control, community-based policing, public safety & security committees, and police volunteer schemes; investigation /

	forensic capacities and case management.* • Train prosecutors on acceptable fair trial standards which respect human rights, including the inclusion of women and promoting the rule of law.*
IOM	• PBF household-level survey.
UN-HABITAT	• Sketch mapping and demarcation of village boundary and buffer zone. • Re-planning and regularization, including individual plots demarcation.* • Train government on sketch-mapping techniques and Social Tenure Domain Model. • Develop land database within the Social Tenure Domain Model at locality and village level.*
UNHCR	• Establish community-based protection structures (including community-based protection networks, community-based reconciliation mechanisms, and youth committees) to reduce and mitigate risks in communities and among populations served. • Provide support and training to community structures. • Develop protection action plans with community-based protection networks and community-based reconciliation mechanisms. • Identify persons with special needs and referrals. • Civil documentation (registration and issuing of birth certificates). • Community awareness and sensitization on protection issues.*
FAO	• Establish community-corridor monitoring committees and induction training. • Demarcate hot spots areas along animal routes. • Assess animal services along the livestock routes. • Assess and identify appropriate livelihoods activities for vulnerable families.*
UNICEF	• Conduct community-led total sanitation program; form and train WASH committees (10 members per community). • Conduct knowledge, attitude, and practice survey, & support “come to school” campaign. • Provide alternative learning program for out-of-school children. • Provide learning materials to children. • Provide training for school parent-teacher association members and education officials on conflict sensitivity and peacebuilding. • Support referral and protection services to prevent and respond to child rights violations, including sexual and gender-based violence. • Establish inclusive child protection networks at community level. • Organize youth life-skills training on employability skills and peacebuilding skills using communication for development (C4D) approaches. • Provide small grants to child- and youth-friendly clubs.

Source: East Darfur Project Activity Matrix, as provided to the Government of Sudan, received from UNDP July 2022. See Appendix 9 for more details.

3. Research design: state and village selection

This impact evaluation uses baseline and endline survey data to compare individuals and households in villages where PBF-supported projects were implemented, with those in villages where they were not. Given that the theory of change targets communities and treatment assignment occurred at the village level, it was essential to identify comparable PBF implementation ("treatment") villages and similar non-implementation ("control") villages.

Baseline data collection, conducted by IOM, pre-dated the impact evaluation design. Hence, the first step in developing this village-level research design was to conduct a detailed state-by-state review of implementation plans in each of Darfur's five states. This step revealed that only East Darfur was a suitable context wherein there would be comparable treatment and control villages with baseline data. The sample of villages in East Darfur was subsequently refined using both baseline data and qualitative data from the first round of endline data collection.

3.1 State-by-state review

To identify as many sites as possible where comparable treatment and control villages existed, the research team collected fine-grained implementation information from each implementing agency in each state of Darfur. This scoping effort drew on: documents provided by the PBF Secretariat in Sudan, which is responsible for coordinating all PBF activities across agencies in Sudan; documents received directly from implementing agencies; and personal communications with implementing organization staff. For each state, scoping continued until the identification of a plausible research design or a factor which would prevent the development of one. A complete discussion of this process is in the evaluability assessment included as Appendix 2, which also provides a list of documents reviewed at this stage. This state-level review continued into the impact evaluation baseline report, included as Appendix 3.

In four out of the five states, there was no set of comparable treatment and control villages where baseline data were available and the sample size would be sufficient for an impact evaluation. In some places, villages were simply too different from each other in terms of demographics or displacement status. In South Darfur, baseline data collection was delayed by conflict. In North Darfur, project implementation sites were moved away from the locations of baseline data collection due to active conflict. For further details, see Appendix 2.

Furthermore, because the six UN agencies in the implementing consortium operated independently at times, they sometimes selected different villages in which to collect the baseline data and implement separate project components. As one example, see Appendix 1.12, which shows that in West Darfur, there was no village in which all implementing agencies worked, according to documents provided by those agencies. In some states, there were insufficient numbers of control villages with baseline data. In others, different villages received different subsets of the intervention, which would have yielded insufficient statistical power to evaluate any of those subsets. For these reasons, project sites in Central, North, South, and West Darfur states were not included in the impact evaluation.

East Darfur was the one state that had a set of comparable treatment and control villages. This state had the largest number of households reached and the largest number of villages included in the baseline data. Implementation occurred in three localities in the state: Assalaya, Yassin, and Sheiria. All three localities were similar in geography and socioeconomic characteristics, as confirmed through consultations with implementing partners and our baseline data analysis.

Implementing partners confirmed that programming was implemented in 14 villages: eight villages in which baseline data were collected, and six villages in which they were not.[6] The baseline dataset included more than 40 villages wherein implementation did not occur. In seven of the eight implementation villages, implementation included most project components, with implementation by multiple recipient UN organizations, making the "treatments" comparable across villages. Additionally, baseline data showed balance on most descriptive and outcome variables between the implementation and non-implementation villages (Appendix 1.1 and Appendix 3). As a result of this state-by-state scoping process, East Darfur was selected as the only state where an impact evaluation would be viable.

3.2 Selecting villages within East Darfur

Ensuring that our control sample best mirrored our treatment villages depended on data from both the baseline survey and from a first qualitative round of endline data collection. Endline data collection for this study took place in two rounds: a first qualitative round to refine the sample of villages, and a second main round which included the household survey. The first round of data collection was necessary to ensure that we had accurate information about PBF-supported project implementation sites, to learn about implementation of other similar projects by other donors, and to ensure that villages were comparable across key identity markers, including tribe.

The first round of qualitative endline data was collected in December 2022. This round targeted all villages in East Darfur in which baseline data were collected (Appendix 1.3). One primary purpose of this data collection was to eliminate villages from the endline household survey which would not meet the criteria for inclusion as treatment or control villages.

Round 1 data collection included observation checklists and key informant interviews. Observation checklists were based on the enumerators' observations and recorded geographical and infrastructural information about the village (Appendix 4). Key informant interviews recorded in-depth information on peacebuilding and development aid projects active within the village, names of organizations implementing said projects, information on basic services, information on tribes residing in the village, and history of conflicts and natural disasters (Appendix 4).

Key informants were knowledgeable individuals in the village such as local traditional authority figures, imams, schoolteachers, women's association leaders, midwives,

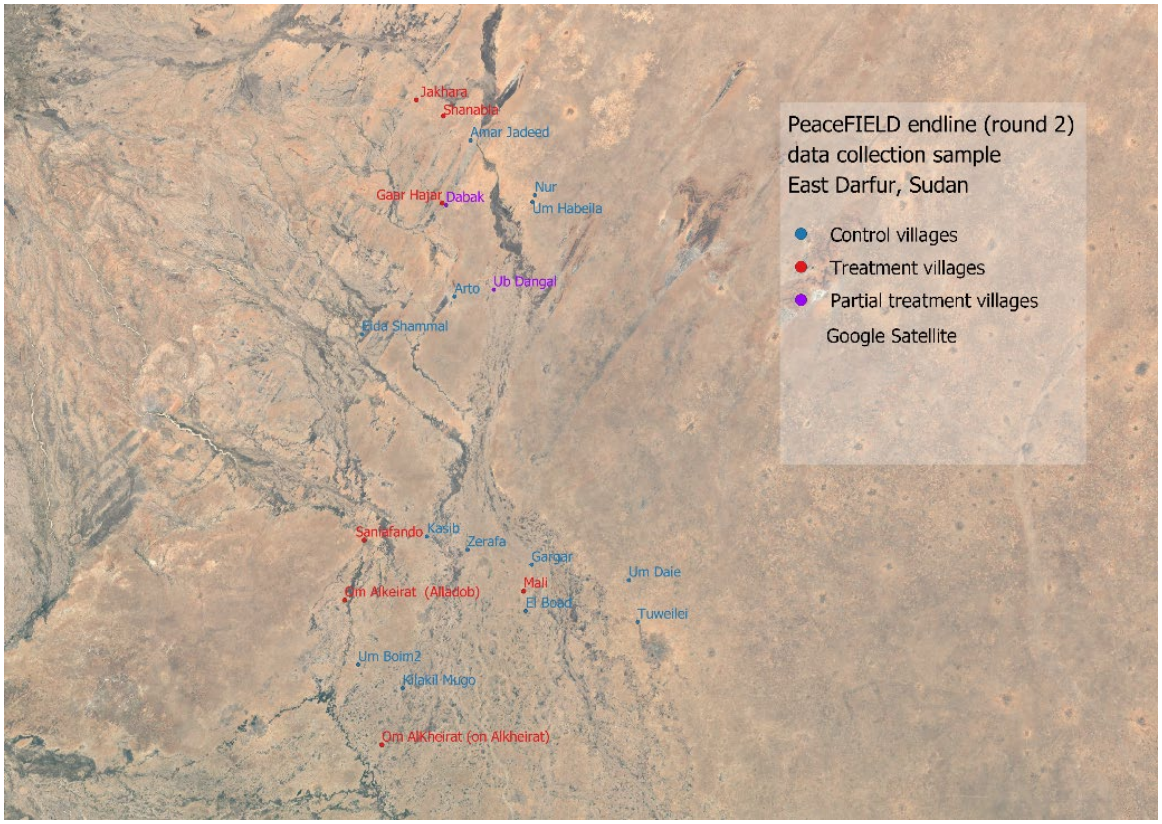
[6] The six villages in which PBF-supported interventions were implemented, but where no baseline data were collected, were excluded from the impact evaluation. However, we did ensure that none of our control villages were geographically close to these non-baseline implementation villages (taking a radius of 3 kilometers).

religious school instructors, and others. See Appendix 1.2 for more information about respondent selection for key informant interviews and questionnaires used in this data collection round.

Based on this round 1 data, villages in which there was substantial implementation of other non-PBF development or peacebuilding projects were eliminated. Following these eliminations, a propensity-score matching algorithm was used on the baseline data for the remaining villages, eliminating those whose social and demographic characteristics were most dissimilar to treatment villages. Finally, two villages were eliminated based on information from implementing partners indicating that they would not be valid comparison villages. Details on each of these steps are included in Appendix 1.4.

Out of 43 potential control villages on the list before this round of data collection, 29 were eliminated through this process. All control villages in our endline sample are at least 3 kilometers away from treatment villages, including those treatment villages in which no baseline data are available. In the end, our primary research design included endline household survey data collection in 20 villages in East Darfur (7 treatment villages and 13 control villages). Data were also collected in two partial treatment villages that were excluded from the primary analysis.[7] This systematic selection procedure also ensured an even balance on observables between treatment and control groups at endline, which is discussed in greater detail in Section 5.

Figure 2: Villages for the endline household survey



[7] See Section 5.1 (endline sampling strategy) for details.

4. Econometric approach

To maximize statistical power given the structure of the data, we follow McKenzie (2012) and employ an ANCOVA approach to estimate the effects of PBF-supported projects. All hypotheses were tested using a common analysis structure: a comparison of treatment and control villages with an ANCOVA model, pseudo-panel dataset, and clustered standard errors at the village-level calculated via wild cluster bootstrapping.[8] A common set of independent variables were applied across most hypotheses, with some variation based on the unit of analysis and specific outcome of interest, as specified in our registered pre-analysis plan.

The model is specified as:

$$Y_{ij} = \beta_0 + \beta_1 \, TREAT_j + \beta_2 \, Y_{(cj,0)} + \beta_3 \, X_{ij} + \beta_4 \, Z_{(cj,0)} + \varepsilon_{ij}$$

Here, Y_{ij} represents the outcome of interest for household *i* in village *j* at endline, $TREAT_{\ j}$ represents the treatment indicator variable for village *j*, and $Y_{(cj,0)}$ represents the value of said outcome at baseline for cohort *c* and village *j*. The values for $Y_{(cj,0)}$ are village-level cohort averages. X_{ij} represents vector of independent covariates at endline for household *i* in village *j*, and $Z_{(cj,0)}$ represents vector of independent covariates at baseline for cohort *c* and village *j*. Details of covariates and baseline controls are in Appendix 1.5. Some outcome variables were not included in the baseline survey;[9] in those cases, the closest possible baseline variables are included as controls, as specified in the pre-analysis plan.

A pseudo-panel approach with cohorts is used to incorporate baseline data because we do not have panel data or identifying information about baseline respondents (Verbeek 2008; Guillerm 2017). Based on what was available in the baseline dataset, cohorts are defined by the age of head of household, gender of respondent, and village of residence. Additional details regarding the cohorts are specified in the pre-analysis plan.

Given that our data has only 20 villages (clusters), all hypotheses were tested using the wild cluster bootstrap approach, clustered at the village level (Cameron et al. 2008). The Benjamini Hochberg (1995) q-values were generated for each primary hypothesis group following Anderson (2008) to correct for multiple hypotheses testing.

5. Data collection methods

Baseline and endline (round 2) survey data were collected by IOM enumerator teams conducting in-person interviews. The questionnaires were similar across both rounds to maximize comparability between the data. Baseline data collection was conducted by the IOM Displacement Tracking Matrix team with no involvement from 3ie.[10] 3ie led the technical planning for endline data collection, with field implementation by the IOM Displacement Tracking Matrix team.

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[8] Click here for the registered pre-analysis plan.

[9] These outcomes are the effectiveness of peace committees, conflict likelihood in the village, and perceptions of women's voice in local decision-making.

[10] Additional support for baseline data collection came from the Joint IDP Profiling Service.

No identifying information about households, nor any contact information, was collected with the baseline survey, so it was not possible to construct household-level panel data, leading to the village-level pseudo-panel design introduced in the previous section. Furthermore, sampling strategies differed between baseline and endline, because baseline sampling prioritized specific target groups and was not probabilistic. Additional information about the baseline survey and its sampling approach is available in the report on its findings from the Joint IDP Profiling Service (JIPS 2021).

5.1 Endline sampling strategy

A total of 20 villages were selected from the 50 villages surveyed at baseline for the primary impact evaluation analysis. These 20 villages included 7 treatment and 13 control villages. To maximize statistical power, every treatment village with baseline data was included in the sample. In order to construct a control sample that would represent a valid counterfactual, we excluded non-implementation villages that met the following criteria:

1. Had implementation of similar projects as those studied here, but were not funded by the PBF
2. Had fewer than 20 households surveyed at baseline
3. Were a big town or city, and hence systematically different from any of the treatment villages (none of which were towns)
4. Had a systematically different population than the treatment group (e.g., villages that had only nomadic or majority nomadic populations)
5. Had a low propensity score for treatment assignment based on our algorithm (Appendix 1.4)

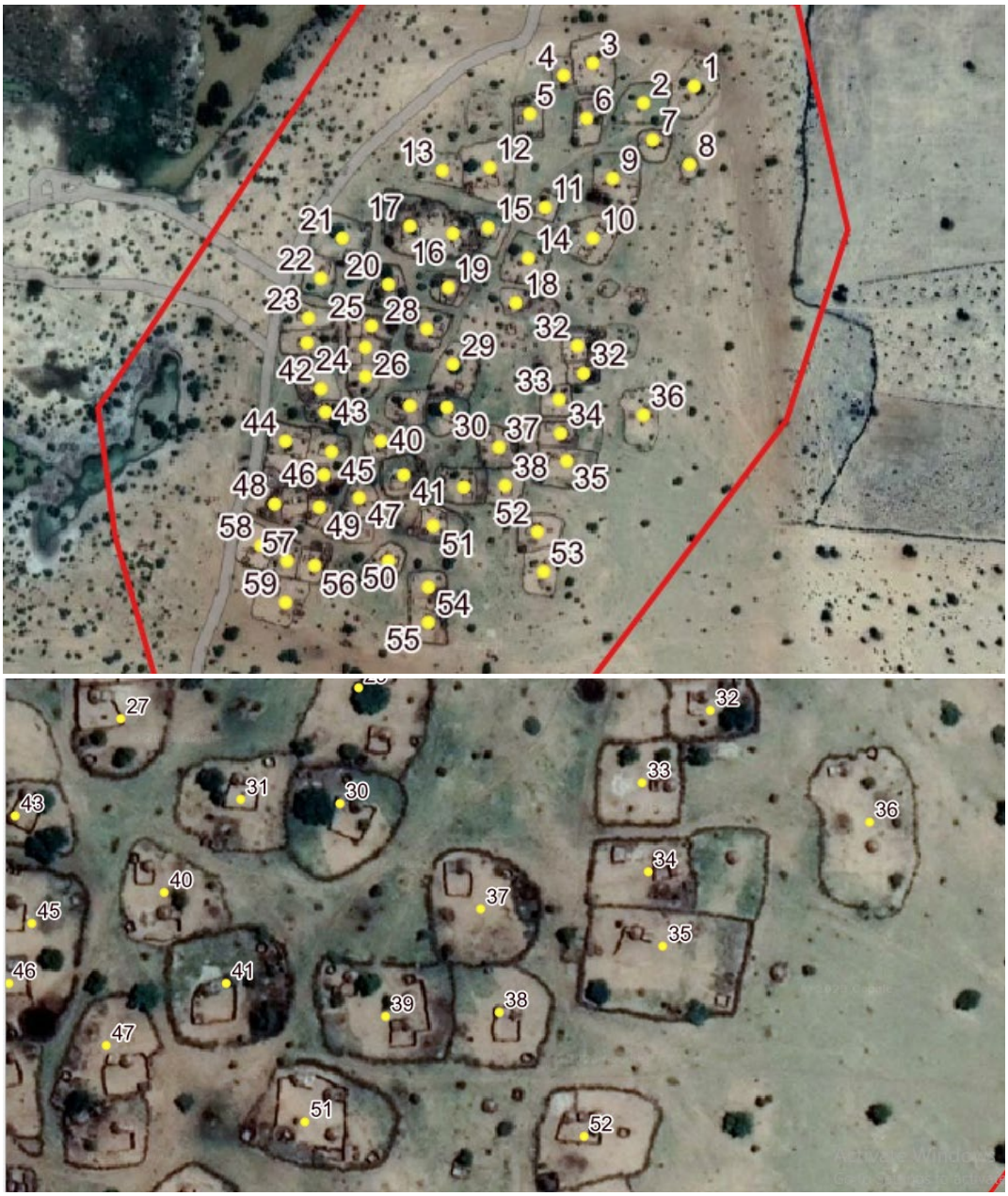
The propensity score algorithm utilized the baseline data covariates mentioned in Appendix 1.4. Villages with very low propensity scores (i.e., very low probability of receiving treatment) were excluded from the control sample. Appendix 1.4 also has additional details on the process of the selection of the 13 control villages.[11]

Within-village sampling was based on random household selection for larger villages and a village census for smaller villages. If male and female adults were both present at the time of the survey, each household was to have one primary respondent, and one secondary respondent of the opposite gender.

For within-village sampling and household selection, an office-based listing was carried out based on satellite imagery and geographic information system data of selected villages. The listing procedure consisted of dwelling/household compound identification via satellite images. These compounds can be defined as enclosed areas that may include several buildings (e.g., houses, barns, separate kitchens and bedrooms) where extended families live and share a common main kitchen.[12] Hence, each compound was listed as one household, and each household was tagged with a number. Figure 3 shows the tagged households in one surveyed village.

[11] Data were collected in two additional "partial treatment" villages at endline: one village very close to an implementation village, in which household survey data were collected; and one village where only one agency implemented activities, in which only qualitative data were collected. These villages are excluded from the primary analysis, as defined in our pre-analysis plan. Places where our analysis draws on these "partial treatment" villages mention their inclusion.
[12] Author interview with IOM Displacement Tracking Matrix focal points in Khartoum and East Darfur, February 2023.

Figure 3: Compound listing for sampling



From the listed households, the target number of households for each village was randomly selected. The listed number of the selected household indicated whether the primary respondent from said household would be male or female. Even-numbered households would have male primary respondents, and female secondary respondents, and vice versa for odd-numbered households. If an adult of the specified gender was not available to be the primary respondent, then the enumerator could interview an adult of the opposite gender as primary respondent. In this case where only adults of one gender were present at the time of the interview, only one interview was conducted; in these cases, there was no secondary interview.

Qualitative interview participants for round 2 data collection were selected in the same way as in round 1 data collection.

5.2 Endline questionnaires

The endline household survey questionnaire was based closely on the baseline questionnaire to maximize data comparability. It included sections on: basic demographic information for each member of the household; questions about land access, status, and conflict; questions about livelihoods; and questions about perceptions of social issues. Alongside the household survey, more detailed qualitative interviews based on a different questionnaire were conducted with targeted community members. Both full endline questionnaires and other details about them are attached as Appendices 5 and 6.

5.3 The endline sample

The endline sample included household surveys from 3,512 individuals from 2,376 households. Of the primary respondents, about 69 percent were women. Of households, 1,121 were from control villages and 1,255 were from treatment villages. An additional 49 households were from Dabak, a partial treatment village with a unique situation.[13] Descriptive statistics on the sample are shown in Table 2. Table 2 also shows the balance of covariates between treatment and control groups at endline.

Using a t-test on the difference in means between the two groups, we see that none of the covariates are significantly different between the two. Appendix 1.1 shows the balance of covariates at baseline between treatment and control groups. While most covariates were balanced at baseline, we see that some covariates (like percentage of returned IDP and non-displaced households) were significantly different between the two groups when the entire baseline sample (from all 50 villages) was included (Table 1 in Appendix 1.1). However, through the propensity score matching procedure and the elimination of non-comparable non-implementation villages, we were able to remove this imbalance (Table 2 in Appendix 1.1; Table 2 below).

It is important to note that we were not permitted by the Sudan Humanitarian Aid Commission to ask any questions related to tribe identity in the endline household survey. Therefore, our proxy measure for tribe was whether an individual speaks Arabic or another language as their mother tongue. Members of non-Arab tribes, such as the Zaghawa or Fur, have a different native language, and thus will be identified as non-Arabic speakers.[14]

[13] Dabak is one of the "partial treatment" villages mentioned above in footnote 9. It is located very close to Gaar Hajar, a treatment village, and the research team had heard conflicting reports about its treatment status. As Dabak did not fall entirely under either treatment or control classifications, it was included in the survey to gain an understanding of impacts there, but is excluded from all primary analyses.

[14] Such individuals generally speak Arabic as a second language. In this paper, the non-Arabic speaker refers to the person's first language or mother tongue.

Table 2: Balance in the endline sample

Variable[15]	Control		Treatment		t-test
	N	Mean	N	Mean	Difference in means
Respondent's gender	1,643	0.63 (0.01)	1,869	0.63 (0.01)	-0.01
IDPs	1,643	0.08 (0.02)	1,869	0.12 (0.06)	-0.04
Returned IDPs	1,643	0.82 (0.04)	1,869	0.80 (0.07)	0.03
Non-displaced individuals	1,643	0.08 (0.03)	1,869	0.08 (0.05)	0.00
Nomads	1,643	0.01 (0.01)	1,869	0.00 (0.00)	0.01
Returned refugees	1,643	0.00 (0.00)	1,869	0.00 (0.00)	0.00
Arabic speakers	1,643	0.86 (0.08)	1,869	0.87 (0.06)	-0.01
Gender of head of household	1,643	0.47 (0.01)	1,869	0.46 (0.02)	0.01
Adults in household with access to a mobile phone	1,643	0.78 (0.03)	1,869	0.75 (0.02)	0.03
Food-insecure households	1,112	0.34 (0.02)	1,240	0.38 (0.02)	-0.04
Household size	1,643	6.02 (0.12)	1,869	6.06 (0.07)	-0.04
Age of head of household	1,643	41.12 (0.50)	1,869	42.34 (0.62)	-1.23
Respondent's level of education	1,643	1.16 (0.09)	1,869	1.28 (0.07)	-0.12

*Note: The value displayed for t-tests are the differences in the means across the groups. Standard errors are in parentheses and clustered at the village level. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.*

6. Results

Our analysis shows that PBF-supported interventions yielded significant effects on conflict and service outcomes. The interventions reduced land conflicts and increased the perceptions of effectiveness of peace committees[16] (90 percent confidence). They also increased school enrollment and satisfaction with administrative and sanitation services (95 percent confidence). Exploratory results suggest that they may also have increased women's perceptions of their voice in local decision-making. These results are complemented by qualitative findings, where respondents in PBF-supported intervention areas reported improved conflict-resolution and service provision.

[15] All binary variables are coded as 1 and 0. For example, for the variable "IDPs," 0 is for non-IDPs and 1 is for IDPs. Hence, the 0.08 mean value in the control group means that 8 percent of respondents from the control group were IDPs.

[16] Here, we include the UNDP's conflict resolution committees, the land steering committees, the natural resource management committees, FAO's community corridor monitoring committees, and UNICEF's WASH committees and child protection committees—all under the blanket term of "peace committees." On the ground, community members usually couldn't differentiate between the different committees. Members would also often be part of most, if not all the committees. Colloquially, they were referred to as "peace committees" by community members. Hence, we will not be differentiating between these different committees either.

A set of robustness checks offering support for our results via other econometric model specifications are presented in Appendix 1.9.

6.1 Conflict

As shown in Table 3 and the corresponding Figure 4, we see a reduction in land conflicts in treatment areas, an increase in the perception of effectiveness of peace committees, and no change in either personal safety or perceived conflict likelihood.

For land conflicts, the analysis shows a reduction of 0.07 conflicts per household in treatment areas, a result which is significant at the 90 percent confidence level when adjusting for multiple hypothesis testing.[17] This reduction is equivalent to about 1 in 14 households with one fewer land conflict.

For some subgroups, the estimated effects are larger. Among non-Arabic speaking households, the reduction is estimated to be 0.28 conflicts per household—equivalent to more than 1 in 4 non-Arabic speaking households reporting one fewer land conflict. For female-headed households, the reduction is estimated to be 0.1 conflicts per household—equivalent to 1 in 10 female-headed households reporting one fewer land conflict. Non-Arabic speaking households and female-headed households are also often marginalized groups in Darfur. Therefore, our results suggest that PBF-supported projects reduced land conflicts more among these marginalized groups (i.e., non-Arabic speaking households and female-headed households).

These reductions are noteworthy given that a strong majority of households had zero land conflicts, creating floor effects—meaning it is hard to measure a decrease because so many households are already starting out at zero. Even in control areas, more than 70 percent of households had zero land conflicts. These results may also be underestimates due to positive treatment spillover into control areas, meaning that project implementation also benefited communities identified as "control" (Section 6.7).

Relatedly, the results show that respondents in treatment areas perceived peace committees to be more effective than those in control areas, another result that is significant at the 90 percent confidence level when adjusting for multiple hypothesis testing. On this outcome, respondents were asked whether they perceived the committees as very ineffective, somewhat ineffective, somewhat effective, or very effective, coded as 1–4. The estimated 0.355 coefficient is equivalent to 1 out of 3 respondents selecting the next-higher choice on the effectiveness ranking. This result is consistent across subgroups. Again, qualitative data discussed in Section 6.7 suggests these results may be underestimated due to positive treatment spillovers.

[17] The land conflict measure was created in the following way: In the survey, each respondent was asked a set of questions about farming land, grazing land, and their dwelling. For displaced people, questions were asked about all of those types of land both at the place of origin and at their current place of residence. For each type, respondents were asked a yes-or-no question about whether there was a conflict associated with that land. The land conflict outcome variable represents the sum of "yes" responses for each household, indicating the number of land conflicts that household is involved in. Because multiple types of land are involved, some households were involved in more than one land conflict.

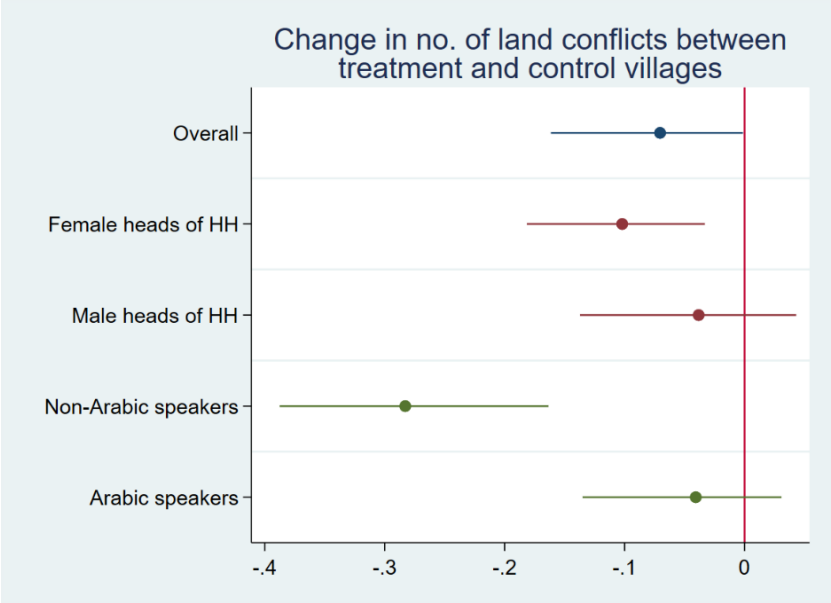
In contrast, we see no effect on perceived conflict likelihood or personal safety. The effect on perceived conflict likelihood was estimated to be zero or extremely close to zero, with a relatively tight confidence interval around that estimate. The estimated treatment effect on personal safety is also not significantly different from zero.

Table 3: Conflict results

H1	(a) **Land conflict index**	(b) **Effectiveness of peace committees**	(c) **Conflict likelihood in the village**	(d) **Safety in current residence**
Overall	-0.070	0.355	0.012	-0.207
	(0.045)	(0.037)	(0.847)	(0.412)
	[0.09]	[0.09]	[0.847]	[0.55]
Observations	2,335	2,390	3,433	3,379
Control mean	0.292	2.701	2.094	19.031
Female-headed households	-0.101	0.346	0.005	-0.144
	(0.004)	(0.065)	(0.926)	(0.672)
Observations	1,220	1,127	1,618	1,597
Control mean	0.296	2.706	2.067	18.701
Male-headed households	-0.038	0.362	0.024	-0.328
	(0.371)	(0.014)	(0.766)	(0.267)
Observations	1,115	1,263	1,815	1,782
Control mean	0.289	2.697	2.118	19.331
Non-Arabic speaking households	-0.282	0.490	0.157	-0.599
	(0.002)	(0.000)	(0.144)	(0.444)
Observations	334	273	469	464
Control mean	0.397	2.442	1.996	19.726
Arabic-speaking households	-0.040	0.351	-0.001	-0.179
	(0.234)	(0.078)	(0.985)	(0.507)
Observations	2,001	2,117	2,964	2,915
Control mean	0.273	2.737	2.110	18.914
Unit of observation	Household	Individual	Individual	Individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008). Anderson's (2008) q-values are in square brackets.

Figure 4: Conflict results



6.2 Satisfaction with services

As shown in Table 4 and the corresponding Figure 5, we see an increase in perceived satisfaction with services, particularly sanitation and administrative services in treatment regions. There does not seem to be any change in satisfaction with water services. The biggest effects on these outcome variables are seen among male respondents.

The results show that respondents in treatment villages reported higher satisfaction with sanitation and administrative services, at the 95 percent confidence level after multiple hypothesis correction. For these outcomes, respondents were asked how satisfied they were with said services on a Likert scale, with 0 being not satisfied at all, and 4 being very satisfied. The treatment effect of 0.360 on satisfaction with sanitation services means that more than one third of treated respondents reported one higher rank on the satisfaction scale.

Similarly, almost 30 percent of treated respondents reported one higher rank on the satisfaction with administrative services scale. The satisfaction with services index is a sum of the following variables—satisfaction with water, health, sanitation, and administrative services—with a bigger number corresponding to higher satisfaction with the above listed services. Among respondents in treatment regions, this index was 1.23 points higher.

These treatment effects were also bigger among male respondents. More than half of the men in treatment regions reported one higher satisfaction ranking with sanitation services, while for administrative services, it was more than a third. For men in treatment regions, the overall index was also almost 2 index points higher.

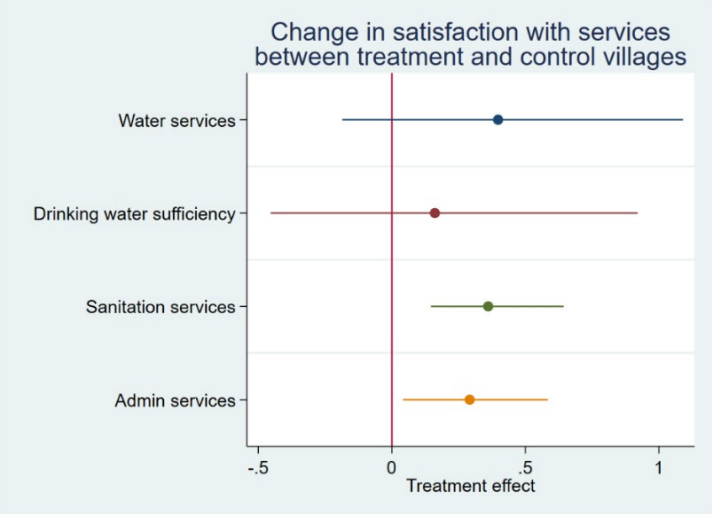
In contrast to sanitation and administrative services, satisfaction with water services as well as drinking water sufficiency were not significantly different between treatment and control regions. However, looking at the village-by-village variation, we see a very strong treatment effect in one specific village (village code: 52) on both sanitation with water services as well as drinking water sufficiency (Appendix 1.8). Possible explanations for this result (implementation issues in other villages) are discussed in Section 6.7.

Table 4: Services results

H2	(a) Satisfaction with water services	(b) Drinking water sufficiency last summer	(c) Satisfaction with sanitation services	(d) Satisfaction with administrative services	(e) Satisfaction with services index
Overall	0.397	0.160	0.360	0.291	1.234
	(0.178)	(0.653)	(0.001)	(0.027)	(0.030)
	[0.223]	[0.653]	[0.005]	[0.05]	[0.05]
Observations	3,015	2,240	2,260	1,946	1,194
Control mean	1.591	1.386	1.490	1.834	6.420
Female respondents	0.342	0.208	0.301	0.243	0.960
	(0.397)	(0.629)	(0.059)	(0.076)	(0.163)
Observations	1,898	1,560	1,422	1,230	739
Control mean	1.619	1.368	1.520	1.866	6.477
Male respondents	0.470	0.142	0.531	0.290	1.685
	(0.091)	(0.673)	(0.000)	(0.047)	(0.001)
Observations	1,117	680	838	716	455
Control mean	1.545	1.423	1.442	1.780	6.326
Unit of observation	Individual	Household	Individual	Individual	Individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008). Anderson's (2008) q-values are in square brackets.

Figure 5: Services results



6.3 School enrollment and attendance

Our analysis also shows increases in formal school enrollment as well as attendance in treatment regions.

As shown in Table 5 and the corresponding Figure 6, formal school enrollment increased by 11 percentage points in treatment areas. This effect was bigger among children in male-headed households, where it increased by 14 percentage points. The treatment effect was also bigger among school-aged girls as compared to school-aged boys. A school-aged girl was 15 percentage points more likely to be enrolled in a school in treatment areas.

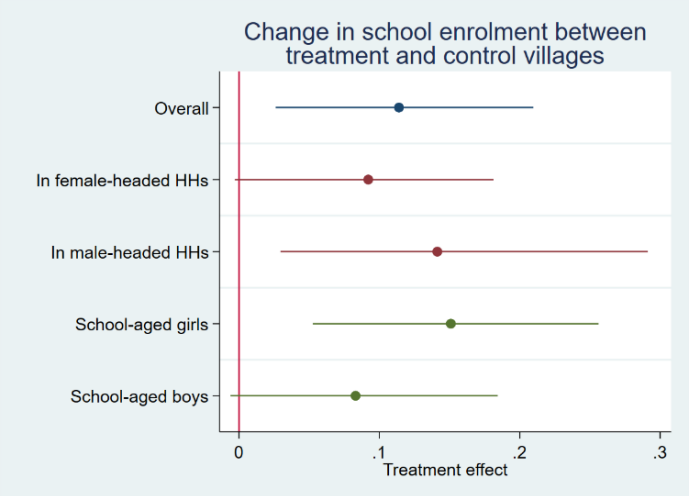
Table 5: School enrollment results

H3	School enrollment
Overall	0.113
	(0.013)

Observations	4,486
Control mean	0.504
Children from female-headed households	0.092
	(0.055)
Observations	2,390
Control mean	0.507
Children from male-headed households	0.141
	(0.011)
Observations	2,096
Control mean	0.500
School-aged girls	0.150
	(0.003)
Observations	2,192
Control mean	0.476
School-aged boys	0.083
	(0.065)
Observations	2,294
Control mean	0.529
Unit of observation	School-aged individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008).

Figure 6: School enrollment results



We also measured school attendance among school-going children, which was pre-registered as a supplementary hypothesis. Since this hypothesis was tested only among school-going children, who make up roughly half of the sample of children, the sample size is smaller for this regression. As shown in Table 6, there was a statistically significant increase of 4 percentage points in school attendance in treatment areas. While the effect size was about the same for both boys and girls (with coefficient value of 0.04), the measured effect amongst school-going boys was more precise.

Table 6: School attendance results

H3 (supplementary)	**School attendance**
Overall	0.039
	(0.014)
Observations	2,651
Control mean	0.886
School-going girls	0.041

	(0.147)
Observations	1,274
Control mean	0.890
School-going boys	0.040
	(0.002)
Observations	1,377
Control mean	0.882
Unit of observation	School-going individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008). Anderson's (2008) q-values are in square brackets.

6.4 Women's political participation

An interesting exploratory finding is the increase in women's perceived voice in affecting village-level decisions. This finding is exploratory because the primary specification as pre-registered is not statistically significant. However, we do see interesting results on a supplementary hypothesis (Table 7).

As pre-registered, we fail to reject the null hypothesis that there is no difference in women's political participation between treatment and control villages after correcting for multiple hypothesis testing. We also see no significant effect on other measures of participatory decision-making.

However, we do see that a significant number of women in treatment villages reported seeing an increase in their participation in village-level decision-making since the implementation of PBF-supported projects. This outcome indicator for the supplementary hypothesis was based on a survey question asking how women's participation in village-level decision-making has changed in the past two years, with a Likert answer scale from "a lot less" (1) to "a lot more" (5). Since this hypothesis was pre-registered to be tested only among female respondents, we see that a woman in a treated village was 28 percentage points more likely to choose a higher ranking on the Likert scale (i.e., perceive that her participation has increased in the past two years).[18]

These results become stronger when we include Dabak as a treatment village in the sample. Dabak is located around a kilometer away from a treatment village (Gaar Hajar). Prior to endline data collection, our consultations with implementation staff as well as interviews from the first round of qualitative data collection had shown mixed responses on whether Dabak was fully treatment or control. Hence, for all primary specifications, we pre-registered Dabak to be excluded from all analyses.

Through interviews from the second round of qualitative data, as well as enumerators' observations, we learned that it is more accurate to define Dabak as a partial treatment village—in particular, its chief was a member of a peace committee and participated in some PBF-sponsored activities. When we include Dabak in the sample, we see that while the number of observations does not increase much, our effects become much more precise.

Table 7: Participatory decision-making

[18] The primary hypothesis test (column c in Table 7) was the following: a survey question asking whether women's voices are heard when deciding on village-wide issues. This had a Likert answer scale from "never" (0) to "yes, always" (4).

H5	(a) Participation in community meetings	(b) Social cohesion index	(c) Women's political participation	(supplemental) Change in women's political participation
Treatment	0.027	0.093	0.443	0.282
	(0.646)	(0.333)	(0.059)	(0.022)
	[0.646]	[0.444]	[0.118]	[0.088]
Observations	1,982	2,802	2,041	1,954
Control mean	1.590	10.141	1.594	3.115
Treatment (incl. Dabak)	0.039	0.097	0.482	0.324
	(0.483)	(0.312)	(0.028)	(0.006)
	[0.483]	[0.416]	[0.056]	[0.024]
Observations	2,032	2,849	2,086	1,997
Control mean	1.590	10.141	1.594	3.115
Unit of observation	Individual	Individual	Female individual	Female individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008). Anderson's (2008) q-values are in square brackets. Note that these q-values include all four of these outcome variables, even though only outcomes a, b, and c were registered as primary hypothesis tests.

6.5 Other results

We see precise null effects on conflict likelihood and participation in community meetings. These results present interesting implications for mechanisms that have driven above-discussed results. For other primary hypotheses, we see imprecise null effects and hence cannot make any claim about the effect, or lack thereof, of PBF-supported programs on those outcome indicators.

For conflict likelihood and participation in community meetings, we see a coefficient very close to zero (0.01 and 0.03, respectively) and a very small standard error (0.05 for both). Hence, we can infer that there was no treatment effect on these two outcomes. Here, we note that conflict likelihood is very different from the land-conflict index. While the land-conflict index is a measure of specific local-level land conflicts, the conflict likelihood outcome measures respondents' perception of the likelihood of a village-level conflict of any type. While we do see a reduction in local-level land conflicts, we do not see any change in perception of overall conflict likelihood. This finding is reasonable given the outbreak of a nationwide war weeks after data collection ended.

Linking the precise null that we observe for participation in community meetings with the treatment effects on land conflicts and perceived effectiveness of peace committees provides interesting implications for the mechanism of change. While we see reduction in local conflicts and a related increase in effectiveness of peace committees, the null effect on community participation shows that the effect on land conflicts is not a result of an increase in people attending community meetings, because meeting attendance did not change. Rather, it appears that something else about the peace committees changed as a result of PBF support, which made them more effective. This increased effectiveness, in turn, led to reduction in land conflicts, since local-level conflict resolution was one of the primary goals of these committees.

As shown in Table 7 above, we cannot reject the null hypothesis that the social cohesion index in treatment villages is unchanged compared with control villages. This index

included three questions about whether village services should be open to all people, and whether the village should be welcoming to all people. These questions were not asked in the way that they had originally been designed, due to government limitations on the type of questions we could ask related to identity characteristics. Therefore, it is not clear whether this null represents an actual failure to change social cohesion or rather the vague and non-standard nature of the questions.[19]

We also do not see evidence that the interventions affected returnees' intention to leave the village, as shown in Table 8 below. This outcome is measured by one question on whether the household was likely to leave that location, with the analysis limited to returnees. It is possible this null effect is a result of floor effects, since more than 85 percent of the baseline sample and more than 80 percent of the endline sample did not intend to leave. Since not many people planned to leave regardless, any effect on those that did would have been difficult to detect.

Table 8: Intentions to leave

H4	Intentions of returnees to move to another location
Treatment	-0.088
	(0.369)
Observations	2,562
Control mean	1.981
Unit of observation	Returnee individual

Note: Wild cluster bootstrapped p-values are in parentheses, clustered at the village level (Cameron et al. 2008).

6.6 Disaggregation by displacement status

A disaggregated analysis by displacement status (Appendix 1.11) roughly mirrors the analysis overall, with only minor differences by subgroup.[20] The results for returnees very closely mirror the results of the full sample, which is not surprising given that this category represents approximately 80 percent of the sample. The effects on land conflict do appear substantially larger among IDPs (who had more land conflicts to begin with) and substantially smaller among the non-displaced (who had fewer land conflicts to begin with).

However, there is a lot of uncertainty around both estimates, because sample sizes for both groups are only around 10 percent of the sample. The effects related to sanitation services and administrative services appear smaller for the non-displaced, while the

[19] In the final form in which they were asked in the survey, the three questions were: "People from all backgrounds are welcomed by members of the community," "People from all backgrounds are able to participate in decision-making in the village, or can lead on some issues such as service provision and conflict resolution," and "People from all backgrounds should have equal access to education and health services."

[20] 3ie did not interview any refugees in our sample, as the baseline did not include refugees. While our data collection partner, IOM, collects information on foreign nationals, data collection with refugee populations falls more under the mandate of UNHCR. There were also too few nomads and returned refugees in the target villages (less than 1 percent of the sample for each category) for disaggregated analyses.

effects on school enrollment appear bigger for the non-displaced, but again there is too much uncertainty in these estimates to make confident inferences. However, these results suggest that the effects did reach the PBF's targeted groups.

6.7 Qualitative results

Detailed qualitative interviews conducted in parallel with the household survey provide more evidence about how the projects affected targeted communities. The interviews broadly corroborate the quantitative findings, with statements about perceived improvements in services and dispute resolution appearing more frequently in treatment areas. Furthermore, the interviews add important context to those findings by showing that implementation spillovers occurred in control villages. In addition, the qualitative data illustrates the mechanisms by which the projects yielded, or did not yield, the effects identified in the previous section.

All round 2 interviews were coded for whether a list of types of statements were included in the responses. These statements mapped onto the questions from the questionnaire, reflecting the questions on conflict history, services, and dispute-resolution mechanisms. Selected statements and their frequency across treatment and control interviews are included in Table 9. Appendix 8 has tabulations of all types of statements that were coded and their frequency across treatment and control interviews.

Table 9: Qualitative results[21]

	Treat	Ctrl
Security is better than previously because of the reconciliation committees.	53.6%	12.5%
A peace/conflict resolution committee exists and it is effective.	85.7%	52.1%
Peace/conflict resolution committees exist but they are not effective committees.	3.6%	10.4%
The committee is not fair and depends on tribalism.	3.6%	0%
Committees conduct social meetings to discuss village issues and/or organize some activities and women are sometimes participating.	67.9%	43.8%
There is organization work in the village under PBF and/or other organizations (e.g., Alight, ZOA, Masar) [PBF implementing organizations].	89.3%	31.3%
There is a severe shortage of water and food production.	10.7%	72.9%
There is a pump/s but water is still insufficient, especially in the summer.	46.4%	2.1%
Water services have been provided (pumps and/or maintenance).	21.4%	0.0%
Reasons to leave village include a lack of services.	7.1%	27.1%

[21] Two coders coded the qualitative data from round 2. The numbers in Table 9 represent the percentage of total respondents from each group (treatment and control) as coded by the first coder. The second coder was external to the project team and did not have any information on treatment status, intervention activities, and so on. The second coder's qualitative results follow the same trends as presented in Table 9, with some differences in exact numbers that were expected and can be attributed to differences in language perception.

Overall, the interviews revealed that implementation spillovers likely occurred. When asked about implementation for PBF-funded projects and mentioned PBF partners, 89 percent of respondents in treatment villages confirmed that there had been implementation. However, in control villages, 31 percent of respondents also said there had been implementation under a PBF-supported project or one of its local partner organizations.

Despite our efforts described in Section 3 to sample villages in which no related implementation occurred, these interviews suggest that in at least some control communities, either there was PBF-supported project spillover implementation, or implementation by the same implementing organizations under another donor. These positive spillover effects may mean that the quantitative effects presented in the previous section are underestimates, because some control communities may have been affected by PBF implementation without being specifically targeted (See Angelucci and Di Maro [2016] for an overview of spillovers in impact evaluations).

6.7.1 Conflict

The interviews show that peace committees were common and perceived to be effective across treatment villages, but also for many respondents in control villages. Furthermore, more than half of respondents in treatment villages said that security was improved because of peace committees, whereas only 12.5 percent of respondents in control villages said the same thing. These results are in line with the quantitative results presented above. They also suggest that peace committees were operating in many control communities, or that community members traveled to intervention communities to discuss issues with their peace committees, possibly with the support of the PBF-backed projects, as noted above.

As one example, a respondent in one treatment village explained:

> *The region is stable and security is better than the previous periods because of the reconciliations that took place in the region, by the formation of committees by the United Peace Organization, where committees were formed to resolve conflicts in the community.*[22] [Note: United Peace Organization was a local PBF implementing partner.]

As another example, another respondent in a treatment village said:

> *The committee intervenes to resolve disputes [United Peace Organization]. A network for the protection of women and children has also been formed to educate people about the seriousness of violence against women, rape, female genital mutilation and marriage...There is a great change in the behavior of society compared to the past because of these awareness workshops.*[23]

The interviews also shed light on the strong finding among non-Arabic speakers, most of whom in our sample speak Zaghawa. A respondent from a treatment village with a large Zaghawa population said:

[22] Interview with traditional authority figure in a treatment village, East Darfur, February/March 2023.
[23] Interview with person associated with traditional authority figure in a treatment village, East Darfur, February/March 2023.

> *There is a dispute settlement committee to solve the problems that occur between the shepherd and the farmer…the committee reduced a lot of the friction that occurred between the two parties in the time before the formation of this committee.*[24]

In contrast, in a majority-Zaghawa control village, a respondent said:

> *The sheikh of the lands of the region handed over our lands to others from the tribes of the region. About 200 farms were not handed over to their owners after their return from displacement. We submitted a complaint to the state and local governments, and we did not find a solution.*[25]

These unresolved conflicts in non-implementation areas likely drive some of the quantitative result shown above.

6.7.2 Services

With respect to services, respondents in treatment villages more frequently reported higher levels of education and health services. Although schools were frequently deemed to be basic or to have poor infrastructure in treatment villages, there were more respondents in control villages who stated that there was no school at all. Health services were more frequently reported to be working in treatment villages. And in control villages, a lack of services was more frequently mentioned as a reason people sought to leave the village.

The interviewees also made the connection between better services and conflict resolution and increased stability in the region. We see respondents from treatment villages themselves attributing the increase in population as more people come to their village because of increasing stability to the PBF-supported interventions for service provision and conflict resolution:

> *The reasons for the stability of the region since 2021 until now, the region is increasing in terms of population due to the availability of treatment and education, especially water. The continued provision of these services makes the region more stable, especially water.*[26]

> *Projects such as education, water, health, and services provided in the region, such as issuing birth certificates, marriage certificates, and dispute settlement committees, are very important to the people of the region. In the event that they are not available, people wish to leave to other places to search for services and security.*[27]

> *In general, water services are much better than before, which resulted in stability and an increase in the number of families. Because of the improvement in water services, many families practice grazing.*[28]

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[24] Interview with person associated with traditional authority figure in a treatment village, East Darfur, February/March 2023.

[25] Interview with traditional authority figure in a control village, East Darfur, February/March 2023.

[26] Interview with person associated with traditional authority figure in a treatment village, East Darfur, February/March 2023.

[27] Interview with traditional authority figure from a partial treatment village, East Darfur, February/March 2023.

[28] Interview with traditional authority figure in a treatment village, East Darfur, February/March 2023.

This evidence provides support for the PBF-supported project's theory of change, which aimed to do exactly this—encourage people to stay in their village by providing basic services and resolving those local-level conflicts that prompted them to move.

The interviews reveal that water projects were implemented in more places than the one village where perceptions of water services improved dramatically. However, many respondents in treatment villages stated that even though there were pumps, the quantity of water was not sufficient. Furthermore, the interviews suggest that there were implementation problems in some places. One respondent said:

> *We suffer from a lack of water. We drink from tanks. The price of a barrel is 2,000 pounds. There is a water tank dug by ALIGHT. It fails and does not retain water due to the engineer's mistake. The tank was covered with zinc to prevent contamination with dust, but there is a danger because children climb zinc, which exposes them to dangers.* [Note: ALIGHT was a local PBF implementing partner].

Responses like this one suggest an explanation for the lack of effect shown in the quantitative analysis: not all water projects that were implemented translated into higher satisfaction with water services.

The case of Jakhara village is informative about the effects and perceptions of improved services as a result of PBF-supported projects. Between December 2022 and February 2023, the entire village relocated a short distance away to the site that had been set up for new services, including those backed by the PBF.[29] Community members had remained in the old location through the end of harvest season, to complete their harvest, then everyone relocated to the new location that had better services. The decision of every household to move to the new location shows the importance and value that residents placed on the new service provision.

7. Discussion

This impact evaluation presents micro-level results showing the effectiveness of a PBF-supported project targeting local conflict drivers. The results paint a picture in which the project's support for local peace committees made them work more effectively and/or inclusively, leading them to successfully resolve land conflicts for residents in implementation areas. Given the large effects for non-Arabic speakers, one possibility is that the presence of UN support encouraged peace committees to address the complaints of minority groups. At the same time, the project's support for schools and services led to increases in school enrollment and satisfaction with services.

In the interviews cited above, residents said they viewed connections between both the increased provision of services and the support for peace committees in the reduction in conflict. These results on increased support for services, increased effectiveness of peace committees, and a reduction in the number of land conflicts move together in the PBF's theory of change, in our quantitative results, and in respondents' own words.

However, our data also shows that these projects did not affect everything. Residents' perceptions of the overall likelihood of conflict were not affected by the intervention. Soon

[29] Enumerators had visited the old survey site for round 1 qualitative collection in December 2022, and then in February 2023 discovered that the village had moved when they returned to collect the household survey data.

after the end of data collection, a nation-wide conflict broke out between Sudan's RSF and SAF on April 15, 2023. Some of the deadliest episodes of this war have occurred in states of Darfur where PBF-supported projects were operating. These conflict outcomes raise questions about how to interpret the positive peacebuilding results of the project presented above. Stepping back and considering the results in a broader context illuminates both the practical implications and limitations of this evaluation.

The Darfur PBF-supported projects did not aim to address the nation-wide questions of authority between the RSF and SAF, which sparked the current national conflict. While the projects did aim to demobilize armed groups and reintegrate them into society, their scope was local. The origins of this conflict between the SAF and RSF were sown before these PBF-supported projects began and were exacerbated by other national- and international-level forces during project implementation (de Waal 2023). This dynamic suggests some limitations on what can be expected from local-level peacebuilding interventions in the short term when the national-level balance of power between existing armed groups is unsettled.

In terms of the scope in which our results are applicable, this analysis shows the effects of this type of peacebuilding programming where the security situation permits implementation throughout the project without major disruption. Project sites in our treatment areas did not have to be moved due to conflict, and implementing agencies generally (though not always) had access to villages. With this data, we cannot speak to the applicability of these results to contexts where conflicts more actively impede implementation.

As noted in Section 3 and Appendix 2, part of the reason we were not able to conduct the impact evaluation in other states of Darfur was related to ongoing conflict at other implementation sites. Some of those sites, like those in West Darfur, are now places where the current war has been most deadly. Since those conflicts were too active during the implementation period for the impact evaluation to be conducted, our results do not directly speak to the effectiveness of the projects in those active-conflict contexts.

Some insights on how our micro-level results and national-level conflict dynamics might interact come from existing theory and evidence from elsewhere. One linkage between the local and the national relates to the availability of willing fighters, given that the intervention area is the type of area from which the RSF typically recruits (Tubiana 2022). Although we did not ask, open-ended responses in our data reveal that our respondents included families of RSF fighters.

Many existing studies have investigated why individuals join rebellions or counter-rebellions, finding that limited economic opportunities, feelings of marginalization, and perceptions of threats can make people more likely to join armed groups or participate in violence (Gates 2002; Fearon and Laitin 2003; Humphreys and Weinstein 2008; Tezcür 2016). The results of PBF-supported projects could be seen as affecting several of these factors, because resolving local land conflicts and supporting service provision could simultaneously improve economic outlooks while also reducing perceptions of marginalization or threats.

A different potential linkage would relate to the level and targeting of local violence in the

context of a nationwide war. Theory and evidence from elsewhere show how national-level conflicts are used for local score-settling (Kalyvas 2006). This work unpacks how “random” violence is often, in reality, quite targeted, because broader conflicts provide opportunities for individuals to denounce people with whom they have a dispute to armed actors as collaborators of their opponents. Unresolved land conflicts would represent a clear score to settle. This logic suggests how PBF-supported interventions might have reduced the level of violence in project areas, but the data we have does not allow us to test this proposition empirically.

8. Conclusion

This impact evaluation shows the effects of the PBF's bundled, locally targeted peacebuilding project on local-level outcomes in an unstable political context. Our analysis reveals that the project achieved a number of its intended effects by reducing the number of conflicts over land, increasing perceptions of peace committee effectiveness, increasing school enrollment, and increasing satisfaction with services. It may also have increased women’s voices in local decision-making, as discussed in Section 6.4. Beyond the scope of this project and this evaluation, it is evident that peacebuilding efforts in Sudan were not sufficient to stop the war, but that national outcomes should not obscure what this PBF-funded project accomplished within its target area in East Darfur.

The finding that the project reduced the number of conflicts over land is novel. The complementary result—that perceptions of peace-committee effectiveness increased—along with interviews describing how peace committees led to reconciliations, suggest that support for peace committees was a key part of the project. Although outside the scope of our research design, it may be essential that this support came from the United Nations (even if implemented by local organizations), given the finding from Nomikos (2022) that UN peacekeepers facilitate cross-ethnic interactions because they were perceived as unbiased enforcers. Additional research about the role of peace committees could refine when, how, and why they are effective.

Our results also show that the projects were effective in achieving another key peacebuilding goal: providing basic services to address the needs of displaced and formerly displaced people. These projects seem to have been particularly effective at improving sanitation and administration services, while the efforts to improve water services did not yield consistent results. Beyond perceptions, the project was also effective at increasing the number of children enrolled in school. In addition to fitting directly into the project’s theory of change, detailed interviews—and the observed relocation of Jakhara village—show how residents in this area perceive these improved services as key to peace.

Future research could do more to unpack which parts of the treatment bundle are essential to achieve these results. With the implementation pattern of this project and our research design, we are not able to rigorously identify the effects of individual components of the bundle. Building on our overall results, a research design with multiple treatment arms for different subsets of project components could provide additional insights.

Given the absence of other comparable evaluations, our findings represent a first piece of evidence supporting the effectiveness of the bundled approach of this PBF-supported project. We show that combining improved service provision with support for dispute-resolution mechanisms can yield results on both conflict and service outcomes. While there are important limitations to what these projects can be expected to accomplish at a national level (as shown, unfortunately, through national conflict outcomes in Sudan), this evaluation suggests that targeted, bundled projects like this PBF-supported intervention are promising for improving local conditions in fragile conflict-affected areas like Darfur.

Online appendixes

Appendix A: Tables

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-A.pdf

Appendix B: Evaluability assessment

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-B.pdf

Appendix C: Baseline report

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-C.pdf

Appendix D: Endline HH questionnaire

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-D.xlsx

Appendix E: Endline round 1 questionnaire

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-E.xlsx

Appendix F: Endline round 2 qualitative questionnaire

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-F.xlsx

Appendix G: Baseline questionnaire

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-G.xlsx

Appendix H: Full qualitative coding

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-H.pdf

Appendix I: East Darfur implementation

https://3ieimpact.org/sites/default/files/2024-08/IE139-PBF-PeaceFIELD-Darfur-Online-appendix-I.pdf

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306, 3rd Floor, Rectangle One
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