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Supporting Information

S1: Variation in PES enrollment and robustness check

The date of enrollment in Socio Bosque (PES program) varies between 2008 and 2013 across our 25 treatment communities. The table below summarizes the number of communities that enrolled each year.

Table 1. Year of enrollment for the 25 Socio Bosque communities

Year of Enrollment	Number of Socio Bosque Communities
2008	9
2009	2
2010	1
2011	6
2012	4
2013	3
Total	*25*

To test sensitivity of our results to year of enrollment we split our sample into two: (1) communities enrolled between 2008-2010 (N=12) and (2) communities enrolled between 2011-2013 (N=13). Using all control communities we reran our fixed effects panel regressions with the split samples. The treatment effect for communities enrolled between 2008-2010 is statistically significant and negative for some samples; the treatment effect is not statistically significant for communities enrolled between 2011-2013. In our main results (Main Text, Tables 3 and 4), where we consider all 25 treatment communities together, the treatment effect was not statistically significant. Thus, these results suggest that we are underestimating the true effect of the program by considering all 25 communities jointly; likely some communities that enrolled later report conflicts 'after 2008 and until today' that are treated as post-treatment outcomes in our sample when they are in fact pre-treatment outcomes. Given limitations in data collection we cannot correct for this and given the inconsistency across samples in Table 2 below and weak significance level (90%), we treat all 25 Socio Bosque communities as the treatment in the main paper.

Table 2. Impact of Socio Bosque on reported changes in land conflicts split by PES year of enrollment. Marginal effects reported with standard errors in italics.

	Split by PES enrollment year	
	2008-2010	**2011-2013**
All households[a]	-0.167[&] *0.078*	-0.010 *0.044*
N	*802*	*928*
Omitting households that rented or borrowed land[b]	-0.140[&] *0.083*	-0.004 *0.045*
N	*784*	*912*
Omitting households that reported access to both semi-private and communal use lands[c]	-0.161 *0.097*	-0.007 *0.047*
N	*758*	*898*
Omitting households that rented or borrowed land and that reported access to both semi-private and communal use lands[d]	-0.153 *0.099*	-0.022 *0.044*
N	*744*	*890*

$*p \leq 0.05$, $**p \leq 0.01$
$^{\&} p \leq 0.10$
Note: Linear fixed effects panel regression estimated with program dummy variable, total area of land household had access to in 2008 and 2016, community population size in 2008 and 2016, total area of communal use land in 2008 and 2016, household fixed effects, year fixed effects, and region-year fixed effects. Standard errors were clustered at the community level.
[a]Three communities (60 households) dropped due to missing community-level variables used in matching.
[b]Drops 22 households that reported only having access to rented or borrowed land, since these households may have different tenure security.
[c]Drops 44 households that reported access to both semi-private and communal use lands, since these may represent measurement error since it was often just one household per community that reported this dual type of access.
[d]Drops 22 households that reported only having access to rented or borrowed land and the 44 households that reported access to both semi-private and communal use lands.

S2. Household survey questions on land conflict

1. Before 2008, were there any disputes or disagreements with anyone over the ownership of land?
    a. YES (1)
    b. NO (2)
2. If YES, what was the main concern?
    a. Boundary dispute (1)
    b. Inheritance-related (2)
    c. Sales-related (3)
    d. Rental-related (4)
    e. Expropriation (5)
    f. Invasion (6)
3. With whom was the disagreement?
    a. Within family (1)
    b. Within the indigenous community (2)
    c. Neighboring community (3)
    d. Other private (e.g. squatters) (4)
    e. Government (5)
    f. Private entity (business) (6)
    g. Other (7)
4. Before the year 2008, what would have been the first step to resolve the problem or disagreement that you have had?
    a. Try to resolve them between those involved (1)
    b. Neighbors (2)
    c. Community leaders (3)
    d. Judicial court (4)
    e. No one (5)
    f. Other, who? (6)
5. After 2008 and until today, were there any disputes or disagreements with anyone over the ownership of land?
    a. YES (1)
    b. NO (2)
6. If YES, what was the main concern?
    a. Boundary dispute (1)
    b. Inheritance-related (2)
    c. Sales-related (3)
    d. Rental-related (4)
    e. Expropriation (5)
    f. Invasion (6)
7. With whom was the disagreement?
    a. Within family (1)
    b. Within the indigenous community (2)
    c. Neighboring community (3)
    d. Other private (e.g. squatters) (4)
    e. Government (5)
    f. Private entity (business) (6)
    g. Other (7)

8. Where would you go now for a problem or disagreement over this land?
    a. Try to resolve it ourselves (1)
    b. Neighbors (2)
    c. Community leaders (3)
    d. Courts (4)
    e. Nowhere (5)
    f. Other (6)

Table S1. Community and household summary statistics for 49 communities. Mean values reported with standard deviations in italics.

Variable	All households	Socio Bosque households	Non-Socio Bosque households
Report land conflict before 2008 (0/1)	0.21 *0.41*	0.26 *0.44*	0.15 *0.35*
Report land conflict after 2008 (0/1)	0.12 *0.32*	0.15 *0.36*	0.08 *0.27*
Community population in 2008[a]	594.54 *869.60*	437.27 *199.73*	773.38 *1,129.91*
Communal use lands in 2008[a] (ha)	1,444.14 *2,073.10*	2,016.66 *2,412.68*	793.03 *1,312.16*
Household family size	5.39 *2.62*	5.76 *2.81*	5.00 *2.30*
Total area of land household had access to in 2008 (ha)	15.44 *26.49*	17.72 *27.73*	12.92 *24.83*
Household had forest on their land in 2008 (0/1)	0.60 *0.49*	0.62 *0.49*	0.58 *0.49*
Slope (degrees)	2.16 *6.32*	2.36 *7.57*	1.93 *4.54*
Distance to market town (hours)	1.09 *1.10*	1.05 *1.05*	1.15 *1.15*
Distance to paved road (hours)	0.95 *1.44*	1.07 *1.66*	0.81 *1.12*
Indigenous (1/0)	0.78 *0.41*	0.88 *0.32*	0.66 *0.47*
De facto communal land tenure	0.54 *0.50*	0.71 *0.46*	0.35 *0.48*
De facto semi-private land tenure	0.48 *0.50*	0.34 *0.47*	0.65 *0.48*
N	*932*	*491*	*441*

[a]*Only available for 46 communities*

Table S2. Covariate balance before and after matching using 49 communities. Community variables (rows 1 and 2) were not included in the matching equation.

Variable	Difference in means[a] before matching (no community variables)	Difference in means[a] after matching (no community variables)	Standardized differences in means[b] after propensity score matching (no community variables)
Community population in 2008	5.62**	4.72**	0.35
Communal use lands in 2008 (ha)	-9.42**	-7.21**	0.54
Household size	-4.53**	-1.90*	0.14
Total area of land household had access to in 2008 (ha)	-2.78**	-1.10	0.08
Household had forest on their land in 2008 (0/1)	-1.20	0.08	0.01
Slope (degrees)	-1.07	-0.31	0.02
Distance to market town (hours)	1.29	-0.62	0.05
Distance to paved road (hours)	-2.87**	0.03	0.00
Indigenous (1/0)	-8.39**	-0.94	0.07
N	*932*	*702*	*702*

**p≤0.05, **p≤0.01*

Note: To reduce differences at the household level we included the following variables in the matching equation: household size, total area of land household had access to in 2008, whether this land had forest on it, slope, distance to market town and paved road, whether household was indigenous, and regional dummy variables.

[a]T-values from two-sample t-tests with unequal variances for differences between Socio Bosque and Non-Socio Bosque households.

[b]Standardized differences in means normalize the difference based on sample size. A value >0.25 is considered large enough to bias parametric regression analysis (Imbens and Wooldridge 2009).

Table S3. Impact of Socio Bosque on reported changes in land conflicts using 49 communities[a] and no community variables. Marginal effects reported with standard errors in italics.

	All conflicts	**Conflicts with external actors**	**Conflicts with internal actors**	***De facto* access to communal use land**	***De facto* access to semi-private land**
All households	-0.048 *0.041*	-0.030 *0.031*	-0.031 *0.020*	-0.083[&] *0.049*	-0.002 *0.058*
N	*1,404*	*1,404*	*1,404*	*1,404*	*1,404*
Omitting households that rented or borrowed land[b]	-0.061 *0.040*	-0.036 *0.028*	-0.015 *0.041*	-0.101* *0.046*	0.006 *0.056*
N	*1,360*	*1,360*	*1,360*	*1,360*	*1,360*
Omitting households that reported access to both semi-private and communal use lands[c]	-0.051 *0.041*	-0.025 *0.028*	-0.031 *0.023*	-0.100[&] *0.052*	0.015 *0.055*
N	*1,364*	*1,364*	*1,364*	*1,364*	*1,364*
Omitting households that rented or borrowed land and that reported access to both semi-private and communal use lands[d]	-0.055 *0.042*	-0.023 *0.028*	-0.039 *0.023*	-0.104* *0.052*	0.028 *0.057*
N	*1,304*	*1,304*	*1,304*	*1,304*	*1,304*

**p≤0.05, **p≤0.01*

[&]p≤0.10

Note: Linear fixed effects panel regression estimated with program dummy variable, total area of land household had access to in 2008 and 2016, household fixed effects, year fixed effects, and region-year fixed effects. Standard errors were clustered at the community level.

[a]All communities included.

[b]Drops 22 households that reported only having access to rented or borrowed land, since these households may have different tenure security.

[c]Drops 44 households that reported access to both semi-private and communal use lands, since these may represent measurement error since it was often just one household per community that reported this dual type of access.

[d]Drops 22 households that reported only having access to rented or borrowed land and the 44 households that reported access to both semi-private and communal use lands.

Table S4. Impact of Socio Bosque on reported changes in land conflicts using 46 communities[a] and testing potential non-institutional moderating variables. Marginal effects reported with standard errors in italics. Dependent variable is "All conflicts".

	Interaction term with Forest[e]		Interaction term with Community Type[f]		Split by Hectares of Community Land[g]		Split by Community Population Size[h]	
	No Forest	**Forest**	**Indigenous**	**Afro-Ecuadorian & Other**	**Below Median**	**Above Median**	**Below Median**	**Above Median**
All households	0.022 *0.044*	-0.099 *0.064*	-0.050 *0.050*	-0.051 *0.046*	0.026 *0.053*	-0.162[&] *0.082*	-0.015 *0.044*	-0.049 *0.084*
N	*1,176*	*1,176*	*1,176*	*1,176*	*612*	*564*	*580*	*596*
Omitting households that rented or borrowed land[b]	0.029 *0.045*	-0.088 *0.067*	-0.041 *0.050*	-0.057 *0.055*	0.053 *0.053*	-0.156[&] *0.084*	0.021 *0.045*	-0.024 *0.075*
N	*1,152*	*1,152*	*1,152*	*1,152*	*592*	*560*	*568*	*584*
Omitting households that reported access to both semi-private and communal use lands[c]	0.029 *0.049*	-0.098 *0.066*	-0.048 *0.049*	-0.034 *0.043*	0.056 *0.056*	-0.184* *0.087*	-0.032 *0.041*	0.033 *0.088*
N	*1,128*	*1,128*	*1,128*	*1,128*	*608*	*520*	*580*	*548*
Omitting households that rented or borrowed land and that reported access to both semi-private and communal use lands[d]	0.027 *0.045*	-0.112[&] *0.068*	-0.053 *0.049*	-0.074 *0.053*	0.045 *0.055*	-0.182* *0.083*	-0.050 *0.040*	-0.008 *0.082*
N	*1,112*	*1,112*	*1,112*	*1,112*	*572*	*540*	*562*	*550*

**p≤0.05, **p≤0.01*

[&]p≤0.10

Note: Linear fixed effects panel regression estimated with program dummy variable, total area of land household had access to in 2008 and 2016, community population size in 2008 and 2016, total area of communal use land in 2008 and 2016, household fixed effects, year fixed effects, and region-year fixed effects. Standard errors were clustered at the community level.

[a]Three communities (60 households) dropped due to missing community-level variables used in matching and regression.
[b]Drops 22 households that reported only having access to rented or borrowed land, since these households may have different tenure security.
[c]Drops 44 households that reported access to both semi-private and communal use lands, since these may represent measurement error since it was often just one household per community that reported this dual type of access.
[d]Drops 22 households that reported only having access to rented or borrowed land and the 44 households that reported access to both semi-private and communal use lands.
[e]Forest is binary variable; interacted with PES treatment variable.
[f]Indigenous is binary variable; interacted with PES treatment variable.
[g]Community population size in 2008 is continuous variable; split above and below median value.
[h]Community communal land size in 2008 is continuous variable; split above and below median value.