

Supplementary Materials

Supplementary S1: household questionnaire questions, data summary, and statistical models

Table S1. Summary of Part 1 variables (Acacia plantation owners profile). The table summarizes the questions posed in the questionnaire and the respective question number (as in questionnaire order) and variable name. The data type refers to continuous interval (CI), discrete interval (DI), binary (B), ordinal (O), and nominal (N) data, whereby qualitative statements (QS) were mostly analyzed and converted to N/O/B data. Summary statistics are – depending on data type – either frequencies, or the mean \pm the standard deviation (and in brackets the response frequencies [number of observations with values >0] and the data range). Interval data were normally distributed ($\sim n$) or were – for statistical analyses – transformed to a natural logarithm ($>\ln$), a power function from a Box-Cox ($>b$) or Johnson ($>j$) transformation, or a normal score transformation ($>s$). Predictor variables tested [variable number in brackets with coefficient sign $+/-$] and the corresponding tests and statistics are summarized in the right column. Predictor variables significant at $p < 0.05$, < 0.005 , and < 0.0005 are indicated with one, two or three stars (*) respectively (n.s. = no significant tested variables). GLM refers to general linear model, BLR binary logistic regression, OLR ordinal logistic regression, NLR nominal logistic regression, SLR simple linear regression, MLR multiple linear regression, Chisq to the Chi-Square test, and KW to the Kruskal-Wallis test. Where BLR did not work due to quasi-complete separation of data points, we sometimes used MLR (indicated with a hash: MLR[#]) to show data inter-relations (binary data used for this test however violates the normality assumption and results may be less reliable).

QQ No	Variable name	Data type	Questionnaire question / information
	Summary statistics		Statistical test and predictor variables
Part 1: Acacia plantation owners' profile			
Q1a	<i>district</i>	N	District
	Phu Loc (70), Huong Tra (70), A Luoi (40)		
Q1b	<i>commune</i>	N	Commune
	Phu Loc: Loc Bon (23), Loc Son (23), Xuan Loc (24); Huong Tra: Binh Dien (29), Huong Ho (21), Huong Tho (20); A Luoi: Dong Son (16), Hong Thuong (15), Huong Lam (9)		
Q2a	<i>fsc</i>	B	member (y/n) of Forest Stewardship Council (FSC) certification scheme
	yes (90), no (90)		Only analysing data of <i>sawlog</i> (1), i.e. <i>fsc</i> (<i>sawlog</i>): BLR [$+districtAL^{**}$, $+education^{***}$, $+plantduration^{*}$, $+plotnumber^{*}$] $R^2=25\%$; BLR [$+districtAL^{***}$, $+education^{***}$, $-plneedloan^{*}$, $+plspcount^{***}$] $R^2=39\%$
Q2a1	<i>fscexploit</i>	B	FSC member who already harvested wood (exploited profits from FSC)
	yes (27), no (153)		Only analysing data of <i>fsc</i> (1), i.e. <i>fscexploit</i> (<i>fsc</i>): BLR [$-districtPL^{*}$, $+education^{*}$, $+plantduration^{**}$, $+plotnumber^{**}$, $+plotsizemax^{*}$] $R^2=33\%$; BLR [$-districtPL^{***}$, $+plantduration^{*}$, $+plotareatot^{**}$, $+plspWWF^{***}$] $R^2=50\%$
Q2b	<i>sawlog</i>	B	owner (y/n) of acacia plantations for sawlog production
	yes (118), no (62)		BLR [$+districtAL^{**}$, $+districtPL^{*}$, $-genderW^{*}$, $+education^{*}$, $+plsttraining^{**}$, $+plestlandbush^{**}$, $+plotareatot^{***}$] $R^2=51\%$
Q2c	<i>woodchip</i>	B	owner (y/n) of acacia plantations for woodchip production
	yes (90), no (90)		--
Q3	<i>gender</i>	B	respondent was a man or woman
	men (148), women (32)		n.s.

Q4	<i>age</i>	CI >b	age of the respondent
	52.2 ± 9.6 (28-79)		T-Test [- <i>ethnmin</i> ***]; GLM [<i>district</i> ***] R ² =20%;
Q5	<i>ethnicity</i>	N	ethnicity of the respondent
	Kinh (138), Bru Van Kieu (3), Co Tu (8), Pa Co (24), Ta Oi (7)		
Q5_1	<i>ethnmin</i>	B	whether (1) or not (0) the respondent is of a minority ethnicity
	minority (42), Kinh (138)		Chisq [- <i>districtAL</i> ***]
Q6	<i>education</i>	DI ~n	number of years the respondent was in school
	7.4 ± 3.7 (0-16)		MLR [- <i>age</i> **, - <i>genderW</i> ***, - <i>ethnmin</i> **] R ² =13%; MLR [- <i>age</i> ***, - <i>genderW</i> ***, - <i>ethnmin</i> ***, + <i>honorary</i> ***, + <i>fsc</i> ***] R ² =43%; GLM [- <i>districtAL</i> *, + <i>sawlog</i> **, + <i>fsc(sawlog)</i> ***, + <i>fscexploit(fsc)</i> *, - <i>age</i> ***, - <i>genderW</i> ***, + <i>honorary</i> ***] R ² =44%
Q7	<i>depchild</i>	DI ~n	number of children in the household
	2.2 ± 1.1 (0-6)		MLR [<i>district</i> *, - <i>age</i> ***, - <i>education</i> **] R ² =14%
Q8	<i>depparent</i>	DI ~n	number of parents supported by the household
	0.3 ± 0.5 (0-2)		SLR [- <i>age</i> ***] R ² =10%

Table S2. Summary of Part 1 (Acacia plantation owners profile) and Part 2 variables (History and involvement in plantation forestry). For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 1: Acacia plantation owners' profile [continued]			
Q7+8	<i>dependents</i>	DI ~n	number of all dependents (children and parents) in the household
	2.5 ± 1.4 (0-7)		MLR [<i>district*</i> , - <i>age***</i> , - <i>education*</i>] R ² =18%
Q9	<i>honorary</i>	B	respondent has (1) a honorary position in the community (e.g. village or commune head) or in an organisation
	yes (38), no (142)		BLR [<i>+districtAL*</i> , <i>+age*</i> , <i>+education***</i>] R ² =17%
Part 2: History and involvement in plantation forestry			
Q10	<i>firstplanttype</i>	N	“What was the first type of plantation you planted before you planted acacia?”
	eucalypt (67), rubber (11), cassava (79), none (23)		Chisq [<i>district***</i>]; in PL and HT <i>firsteucalypt</i> : BLR [<i>+plantduration**</i>] R ² =10%; <i>firstnotree</i> : BLR [<i>-plantduration***</i> , <i>-sawlog*</i>] R ² =9%
Q11	<i>firstyearplant</i>	DI ~n	“In which year did you first plant acacia species?”
	median 1999 (1990-2013)		(cf. Q11_1 below)
Q11_1	<i>plantduration</i>	DI ~n	time (years) since first establishment of acacia plantations
	17.9 ± 5.7 (5-28)		MLR [<i>-districtAL***</i> , <i>+districtPL*</i> , <i>+age***</i> , <i>+education*</i>] R ² =52%; MLR [<i>-districtAL***</i> , <i>+districtPL*</i> , <i>+firsteucalypt***</i> , <i>+plrprogram***</i>] R ² =65%; T-test [<i>+sawlog*</i>], [<i>+fsc*</i>]
Q12a	<i>plantreason</i>	QS	“What were the reasons that lead you to initially set up acacia plantations?”
Q12a1	<i>plrsoilimprove</i>	B	A: “After eucalypt plantation soil was only suitable for planting acacia”
	stated by 16		-
Q12a2	<i>plr easysell</i>	B	A: “I have understood (or seen) that I can gain money from this species”
	stated by 12		-

Q12a3_1	<i>plrresettle</i>	B	A: “I moved in 2004 due to a resettlement policy. I started planting acacia here.”
	stated by 2		(data incorporated for analysis into Q12a3_2 <i>plrlearn</i>)
Q12a3_2	<i>plrlearn</i>	B	A: “I saw how other people planted acacia and learned about it from them.”
	stated by 110		BLR [- <i>districtAL</i> ***, + <i>districtPL</i> **, - <i>age</i> *, - <i>education</i> ***, - <i>genderW</i> *, - <i>plantduration</i> ***] R ² =27% (includes data Q12a3_1)
Q12a5	<i>plrprogram</i>	B	A: “The state encouraged people to plant acacia for re-greening. I was involved in a tree plantation program (e.g. Program 327).”
	stated by 52		BLR [+ <i>districtAL</i> ***, - <i>districtPL</i> ***, + <i>honorary</i> *, + <i>plantduration</i> ***] R ² =29%; BLR [<i>district</i> ***, + <i>plantduration</i> ***, + <i>fsc</i> *] R ² =34%;
Q12b	<i>plantcontinue</i>	QS	“What were the main reasons that motivated you to maintain and continue planting acacias until today?”
Q12b1	<i>plcincome</i>	B	A: “Because I have gained a good income from my acacia plantation.”
	stated by 98		BLR [- <i>districtPL</i> *, - <i>ethnmin</i> ***, + <i>education</i> *] R ² =11%
Q12b2	<i>plclowcost</i>	B	A: “Investments (cost, labor) for planting and maintaining plantations are low.”
	stated by 17		Chisq [+ <i>genderW</i> ***]
Q12b3	<i>plceasymanage</i>	B	A: “The plantations are easy to manage with simple techniques.”
	stated by 32		Chisq [<i>district</i> ***]
Q12b4	<i>plcconvenient</i>	B	Answers Q12b2 and Q12b3 combined. Costs and management convenience.
	stated by 49		BLR [- <i>districtHT</i> *, + <i>ethnmin</i> ***, + <i>genderW</i> *] R ² =11%
Q12b5	<i>plcfastreturn</i>	B	A: “The plantations provide a fast return for investments.”
	stated by 17		-
Q12b6	<i>plcmarket</i>	B	A: “A market for selling the woods is closely available.”
	stated by 16		-
Q13a	<i>plsupport</i>	N	“Did you receive any help from actors during establishing acacia plantation?”
Q13a1	<i>plsgovorg</i>	B	A: “Yes, from a governmental organisation (e.g. state forest company)”
	stated by 124		BLR [- <i>genderW</i> *, + <i>firsteucalypt</i> **, + <i>plantduration</i> ***, + <i>plrprogram</i> *] R ² =29%

Table S3. Summary of Part 2 variables (History and involvement in plantation forestry) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 2: History and involvement in plantation forestry [continued]			
Q13a2	<i>plngo</i>	B	A: “Yes, from a non-governmental organisation”
	stated by 27		(26 in PL, one in HT) analysis for PL only: BLR [+ <i>districtPL</i> ***, + <i>education</i> ***, + <i>honorary</i> *, + <i>firsteucalypt</i> *] R ² =54%
Q13a3	<i>plsother</i>	B	A: “Yes, from other actors [unspecified]”
	stated by 6		-
Q13a4	<i>plsnone</i>	B	Answer was “No, I did not receive any help from any organisation or actors”, or no specific answer was given.
	A: ‘no’ (14), no info? (36)		BLR [- <i>plantduration</i> ***] R ² =26%

Q13b	<i>plspprogram</i>	N	“Did a specific program (led by a governmental organization or an NGO) support you to set up acacia plantations? Please list.”
Q13b1	<i>plspPam4303</i>	B	A: “Yes, the program Pam4303.”
	mentioned by 59		BLR [<i>+plantduration***</i> , <i>+plsgovorg***</i> , <i>+plsnego***</i>] $R^2=37\%$
Q13b2	<i>plspPr327</i>	B	A: “Yes, the Program 337 (Greening the Barren Hills Program).”
	mentioned by 24		BLR [<i>+districtPL***</i> , <i>+education*</i> , <i>+plantduration**</i>] $R^2=41\%$
Q13b3	<i>plspPr661</i>	B	A: “Yes, the Program 661 (Five Million Hectares Reforestation Program).”
	mentioned by 18		Chisq [<i>district***</i>], in <i>districtPL</i> : Chisq [<i>-plrlearn**</i>], Chisq [<i>+plsgovorg*</i>]
Q13b4	<i>plspWB3</i>	B	A: “Yes, the Program WB3.”
	mentioned by 79		Chisq [<i>+plsgovorg***</i>], [<i>-districtAL***</i>]; MLR# [<i>-districtPL*</i> , <i>-districtAL***</i> , <i>+education***</i> , <i>+genderW*</i> , <i>+plrlearn**</i> , <i>+plsgovorg***</i>] $R^2=48\%$
Q13b5	<i>plspWWF</i>	B	A: “Yes, programs conducted by WWF (World Wildlife Fund).”
	mentioned by 45		Chisq [<i>+plsgovorg***</i>], [<i>-districtAL***</i>]; MLR# [<i>+districtPL*</i> , <i>+education***</i> , <i>+firsteucalypt*</i> , <i>+firstrubber*</i> , <i>+plsgovorg**</i>] $R^2=31\%$
Q13b6	<i>plspFSC</i>	B	A: “Yes, programs conducted by FSC (Forest Stewardship Council).”
	mentioned by 22		Chisq [<i>-districtAL*</i>]; BLR [<i>+education***</i> , <i>+plantduration*</i> , <i>+firsteucalypt*</i>] $R^2=22\%$
Q13b7	<i>plspnone</i>	B	A: “No, no program supported me.” (or no answers provided in that respect)
	noted for 77 respondents		BLR [<i>+districtAL***</i> , <i>-education**</i> , <i>-plsgovorg***</i>] $R^2=63\%$
Q13b8	<i>plspcount</i>	O	The number of programs (Q13b1-Q13b6) mentioned by any respondent.
	0 (77), 1 (27), 2 (39), 3 (23), 4 (1), 5 (9), 6 (4)		OLR [<i>+districtPL***</i> , <i>+districtHT*</i> , <i>+education***</i> , <i>+plantduration***</i> , <i>+plsgovorg***</i>] $R^2\approx 62\%$; GLM# [<i>-districtAL***</i> , <i>+sawlog***</i> , <i>+fsc(sawlog)***</i> , <i>district×fsc(sawlog)***</i> , <i>+fscexploit(fsc)*</i> , <i>+education*</i> , <i>+plantduration*</i> , <i>+plsgovorg***</i>] $R^2=75\%$
Q13c	<i>plsupporttype</i>	QS	“What type of support did you receive from any of those actors (government organisations, NGOs, or other) and/or programs?”
Q13c1	<i>plstloan</i>	B	A: “I received a loan.”
	stated by 89		BLR [<i>-districtPL***</i> , <i>+districtAL***</i> , <i>+plantduration***</i> , <i>+plspWB3***</i>] $R^2=59\%$ Of those 137 (see <i>plneedloan</i>) who took a loan: Chisq [<i>+plsgovorg***</i>], [<i>+plspWB3***</i>]; BLR [<i>+districtAL***</i> , <i>+plspWB3***</i>] $R^2=55\%$
Q13c2	<i>plstseedlings</i>	B	A: “I received tree seedlings from a tree nursery.”
	stated by 73		Chisq [<i>+plsgovorg***</i>]; Chisq [<i>+plsnego***</i>]; BLR [<i>+districtAL*</i> , <i>-genderW*</i> , <i>+plantduration**</i> , <i>+plspPam4303*</i> , <i>+plspPr327***</i> , <i>+plspWWF***</i>] $R^2=49\%$; BLR [<i>+plspPam4303***</i> , <i>+plspPr327***</i> , <i>+plspWWF***</i> , <i>+plspFSC**</i>] $R^2=48\%$
Q13c3	<i>plstfertilizer</i>	B	A: “I received fertilizer to support tree growth on plantations.”
	stated by 32		Chisq [<i>+plsgovorg***</i>]; Chisq [<i>+plspWWF***</i>]; BLR [<i>+districtHT**</i> , <i>+plspWWF***</i>] $R^2=65\%$
Q13c4	<i>plsttraining</i>	B	A: “I received training in plantation management (or other things).”
	stated by 63		Chisq [<i>+plspWB3***</i>]; Chisq [<i>+plspWWF***</i>]; Chisq [<i>+plspFSC***</i>]; MLR# [<i>+districtPL*</i> , <i>+districtAL*</i> , <i>+plspWB3***</i> , <i>+plspWWF***</i> , <i>+plspFSC***</i>] $R^2=79\%$; BLR [<i>+age*</i> , <i>-plantduration*</i> , <i>+plspcount***</i>] $R^2=55\%$

Table S4. Summary of Part 2 variables (History and involvement in plantation forestry) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 2: History and involvement in plantation forestry [continued]			
Q13c5	<i>plstselling</i>	B	A: “I received support to sell my plantation products.”
	stated by 56		Chisq [<i>+plspWWF***</i>]; Chisq [<i>+plspWB3***</i>]; Chisq [<i>+plspPr327**</i>]; BLR [<i>-districtPL***</i> , <i>+education**</i> , <i>+plscount***</i>] R ² =72%
Q13c6	<i>plstcertify</i>	B	A: “I received support for the certification of my plantation products.”
	stated by 52		BLR [<i>+plspPam4303***</i> , <i>+plspWB3***</i> , <i>+plspFSC***</i>] R ² =71% BLR [<i>+plrlearn*</i> , <i>+plspcount***</i>] R ² =53%
Q13c7	<i>plstdisprob</i>	B	A: “Forest rangers come to check the cause of plant disease (death of trees).”
	stated by 13		-
Q13c8	<i>plstother</i>	B	A: “I received other types of support.”
	stated by 1		-
Q13c9	<i>plstnoinfo</i>	B	Did not receive specific support or no information was provided.
	noted for 66	BLR [<i>-plsgovorg***</i> , <i>-plspWB3***</i>] R ² =70%; [<i>-plantduration***</i> , <i>-education*</i>] R ² =17%	
Q13c10	<i>plstcount</i>	O	The number of support items (Q13c1-Q13c7) mentioned by any respondent.
	0 (66), 1 (41), 2 (15), 3 (6), 4 (2), 5 (18), 6 (32)	MLR [<i>+plspgovorg***</i> , <i>+plspWB3***</i> , <i>+plspWWF***</i>] R ² =84%; MLR [<i>-genderW*</i> , <i>-plrlearn***</i> , <i>+plspWB3***</i> , <i>+plspWWF***</i> , <i>+plspFSC***</i> , <i>+plspcount***</i>] R ² =84%; GLM [#] [<i>district***</i> , <i>+fsc***</i> , <i>district×fsc***</i>] R ² =56%	
Q14	<i>plneedloan</i>	B	“Did you need to take up a loan in order to establish the plantation?” A: Y/N
	yes (137), no (43)	BLR [<i>+ethnmin***</i> , <i>-education**</i> , <i>+plantduration***</i> , <i>-firstrubber**</i>] R ² =31%; BLR [<i>+genderW*</i> , <i>+ethnmin***</i> , <i>-education*</i> , <i>+plantduration***</i> , <i>-firstrubber**</i> , <i>+plspWB3***</i> , <i>+plspnone**</i> , <i>+plspPr327*</i> , <i>-plsnego*</i>] R ² =40%	
Q15a	<i>plestlandcov</i>	N	“What types of land did you use to establishing your first plantations?”
	bushland (135), agricultural land (24), bare land (6), natural forest (15)	<i>plestlandbush</i> : BLR [<i>+districtHT***</i> , <i>+firsteucalypt*</i> , <i>-plantduration*</i> , <i>+plspcount**</i>] R ² =15%; BLR [<i>+districtHT***</i> , <i>+plottreven*</i>] R ² =14%; <i>plestlandagri</i> : BLR [<i>+districtPL***</i> , <i>-plottreven*</i>] R ² =15%; <i>plestlandforest</i> : Chisq [<i>+districtAL***</i>]; in A Luoi: BLR [<i>-education**</i>] R ² =16%	
Q15b	<i>plestlandlive</i>	O	“Were these lands used to support your livelihoods? If yes, to what degree?”
	no (113), minor (55), moderate, (10), significant support (2)	OLR [<i>+plottreven*</i> , <i>+plestlandagri***</i> , <i>+plestlandforest***</i>] R ² ≈38%	
Q15d	<i>plestlandprod</i>	N	“What were the main products you obtained from those lands?”
Q15d1	<i>plestlandwood</i>	B	A: wood
	noted by 20		Chisq [<i>+plestlandlive(y/n)***</i>], [<i>+plestlandbush**</i>], [<i>+plestlandforest***</i>]
Q15d2	<i>plestlafirewood</i>	B	A: firewood
	noted by 42		Chisq [<i>+plestlandlive(y/n)***</i>], [<i>+plestlandbush***</i>], [<i>+plestlandforest**</i>]
Q15d3	<i>plestlandfood</i>	B	A: food products
	noted by 35		Chisq [<i>+plestlandlive(y/n)***</i>], [<i>+plestlandagri***</i>], [<i>+plestlandforest**</i>]

Q16a1	buyplantation	B	“In addition to your original plots, have you bought any plantations?” A: Y/N
	yes (19), no/no info (161)		Chisq [<i>district*</i>]
Q16a2	buyplarea	CI > s	“What was the area (in hectares) of the plantations which you bought?”
	5.5 ± 4.9 (19; 1-19.5)		MLR [<i>-age*</i> , <i>+plsngo**</i> , <i>+plspWWF**</i>] R ² =24%
Q16a3	buyplyear1st	DI > s	“In which year did you buy the plantation plots?” > first year
	5.6 ± 4.3 (19; 3-18)		-
Q16b1	sellplantation	B	“Have you sold any plantation which you have owned?” A: Y/N
	yes, acacia (8), yes, rubber (2), no/no info(170)		Chisq [<i>+districtHT*</i>]
Q16b2	sellplarea	CI > s	“What was the area (in hectares) of the plantations which you sold?”
	1.7 ± 0.8 (10; 1-3)		MLR [<i>+districtHT*</i> , <i>+plsnone*</i>] R ² =5%
Q16b3	sellplyear1st	DI > s	“In which year did you sell the plantation plots?” > first year
	7.2 ± 4.7 (10; 3-18)		-

Table S5. Summary of Part 3 variables (Plantation assets during the survey [year 2018]). For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 3: Plantation assets during the survey (year 2018)			
Q17a	plotscultivated	CI	“Please list size (ha) for each acacia plot under your cultivation management.”
Q17a1	plotnumber	DI >ln	number of acacia plots under cultivation (owned or rented)
	2.4 ± 1.3 (1-6)	MLR [<i>+plspcount***</i> , <i>+buyplarea**</i>] R ² =37%; MLR [<i>+plspWB3***</i> , <i>+plspWWF***</i> , <i>+buyplarea**</i>] R ² =45%; GLM [<i>+sawlog***</i> , <i>-districtAL×fsc(sawlog)**</i> , <i>+fscexploit(fsc)**</i> , <i>+plsWB3***</i> , <i>+buyplarea*</i>] R ² =58%; GLM [<i>+sawlog***</i> , <i>+fsc(sawlog)*</i> , <i>-districtAL×fsc(sawlog)***</i> , <i>+fscexploit(fsc)***</i> , <i>-plottrevenmild*</i>] R ² =58%	
Q17a2	plotareatot	CI >ln	total area (hectares) of acacia plots under cultivation (owned or rented)
	5.8 ± 7.1 (0.4-46.0)	MLR [<i>+education*</i> , <i>+plrprogram**</i> , <i>+plsngo*</i> , <i>+plspcount***</i> , <i>+buyplarea***</i>] R ² =45%; GLM [<i>+sawlog***</i> , <i>-districtAL×fsc(sawlog)*</i> , <i>+fscexploit(fsc)**</i> , <i>+plspcount*</i> , <i>+buyplarea***</i> , <i>-plottrevenmild*</i>] R ² =63%; GLM [<i>+sawlog***</i> , <i>+fsc(sawlog)**</i> , <i>-districtAL×fsc(sawlog)**</i> , <i>+fscexploit(fsc)***</i>] R ² =58%; analysing <i>nF/woodchip</i> producers only: GLM [<i>+plrprogram*</i> , <i>+plotrubber*</i>] R ² =24%; analysing <i>sawlog(1)</i> only: GLM [<i>+education*</i> , <i>+plspcount***</i> , <i>-plspPr327**</i> , <i>+buyplarea***</i>] R ² =51%; analysing <i>fsc(1)</i> only: GLM [<i>+plspcount***</i> , <i>-plspPr327*</i> , <i>+buyplarea***</i>] R ² =50%; analysing <i>fscexploit(1)</i> only: GLM [<i>+districtPL*</i> , <i>+buyplarea*</i>] R ² =40%	
Q17a3	plotsizemean	CI >ln	average size (hectares) of acacia plots under cultivation (owned or rented)
	2.1 ± 1.5 (0.4-9.7)	GLM [<i>+sawlog***</i> , <i>-districtHT×sawlog*</i> , <i>+education*</i> , <i>+buyplarea**</i>] R ² =63%; GLM [<i>+sawlog***</i> , <i>+fsc(sawlog)**</i> , <i>+fscexploit(fsc)*</i>] R ² =30%	
Q17a4	plotsizemax	CI	maximal size (hectares) of acacia plots under cultivation (owned or rented)
	2.9 ± 2.6 (0.4-16)	-	
Q17a5	plotsize	CI >ln	size (hectares) of acacia plots (plot data) under cultivation (owned or rented)
	2.5 ± 2.2 (0.3-16; N=423)	GLM [<i>+sawlog***</i> , <i>+fsc(sawlog)***</i> , <i>+fscexploit(fsc)*</i> , <i>+plotcoown(sawlog.fsc)*</i> ,	

			<i>-plotfsc(sawlog,fsc,plotsawlog)***, +plotdistance***</i> R ² =27% (<i>plotfsc</i> is whether (1) or not (0) plot was FSC-certified; <i>plotsawlog</i> is whether (1) or not (0) plot was stocked with sawlog; <i>plotcoown</i> is whether (1) or not (0) plot was co-owned); ANOVA [<i>+plotterrain</i>]*
Q17b	<i>plotownership</i>	N	“Q17a > indicate whether you own, rented, or collaboratively worked the plot.”
Q17b1	<i>plotowned%</i>	CI > s	plantation area percentage which is owned by the respondent
	96.9 ± 11.0 (22.2-100)		- (165 owned all plots; cf. Q17b3)
Q17b1_1	<i>plotareaown</i>	CI > ln	total area (hectares) of owned acacia plots
	5.3 ± 5.7 (0.4-31.0)		- (cf. Q17a2)
Q17b2	<i>plotrented%</i>		respondent with rented plots (Y/N); if Y, plantation area percentage rented
	yes (1); 50% (excl. “0”)		-
Q17b3	<i>plotcollabor%</i>	CI > s	respondent cultivating plot with others (Y/N); if Y, area percentage worked
	yes (14); 36 ± 15.5 (22-78; excl. “0”)		only HT and PL districts, and only FSC: MLR [#] [<i>-plneedloan*</i> , <i>+plotareatot***</i>] R ² =25%
Q17c	<i>plotacaciatype</i>	N	“Q17a > please indicate the type of acacia which you planted on the plot.”
Q17c1	<i>plotahybrid</i>	B (CI)	acacia hybrids Y/N; percentage of cultivated area planted with acacia hybrids
	yes (155); 82.4 ± 35.7 (0-100)		Chisq [<i>-districtAL***</i>]; KW [<i>-fsc*</i> , [<i>-districtAL***</i>]; GLM [#] [<i>-districtAL***</i> , <i>-sawlog**</i> , <i>-districtAL×sawlog***</i>] R ² =76%; GLM [#] [<i>-districtAL***</i> , <i>-plotchiptimb***</i> , <i>-plsp661**</i> , <i>-plstloan*</i> , <i>+plstseedlings*</i>] R ² =76%
Q17c2	<i>plotamangium</i>	B (CI)	<i>Acacia mangium</i> Y/N; percentage of cultivated area planted with <i>A. mangium</i>
	yes (45); 17.6 ± 35.7 (0-100)		BLR [<i>+districtAL***</i> , <i>+plotnumber***</i> , <i>+plotchiptimb**</i> , <i>+plspPr661**</i> , <i>+plstloan*</i> , <i>-plstseedlings*</i>] R ² =59%; BLR [<i>+districtAL***</i> , <i>+fsc*</i> , <i>+plspPr661*</i> , <i>+plotnumber*</i>] R ² =55%
Q17d	<i>plotproduct</i>	N	“Q17a > indicate the type(s) of product(s) which you produce from the plot.”
Q17d1	<i>plotwoodchip</i>	CI	woodchip only Y/N; percentage of plot area cultivated only for woodchip
	yes (142); 59.7 ± 39.0 (0-100)		- (cf. Q17c2)

Table S6. Summary of Part 3 variables (Plantation assets during the survey [year 2018]) continued. For descriptions of table content and summary statistics refer to Table S1.

Part 3: Plantation assets during the survey (year 2018) [continued]			
Q17d2	<i>plotchiptimb</i>	CI ~n	woodchip and timber Y/N; % of plot area cultivated for woodchip and timber
	yes (111); 40.3 ± 39.0 (0-100)		excluding sawlog as predictor: GLM [<i>+fsc***</i> , <i>-districtHT*</i> , <i>+districtAL×fsc***</i> , <i>-genderW*</i> , <i>+honorary***</i> , <i>-plsngo*</i>] R ² =52%; excluding sawlog and fsc as predictor: MLR [<i>-genderW*</i> , <i>+education*</i> , <i>+honorary**</i> , <i>-plantduration*</i> , <i>+plrprogram*</i> , <i>+plotareatot***</i>] R ² =31%; MLR [<i>+education*</i> , <i>+honorary***</i> , <i>-plsngo*</i> , <i>+plotareatot***</i>] R ² =29%; MLR [<i>-genderW*</i> , <i>+education*</i> , <i>+honorary***</i> , <i>-plsngo**</i> , <i>+plotareatot***</i> , <i>-plspWB3**</i> , <i>+plstselling*</i>] R ² =31%; analysis of sawlog(1) only: MLR [<i>+fsc*</i> , <i>-genderW*</i> , <i>+honorary***</i> , <i>-plantduration*</i> , <i>-plsngo*</i> , <i>-plspWB3**</i> , <i>+plspcount*</i> , <i>+plottrevenmild*</i>] R ² =29%; MLR [<i>+fsc*</i> , <i>+honorary***</i> , <i>-plsngo*</i> , <i>-plspWB3**</i> , <i>+plottrevenmild*</i> , <i>-plneedloan*</i> , <i>+plsttraining*</i>] R ² =31%
Q17e	<i>plotdist</i>	CI	“Q17a > indicate the distance (in km) of the plot to your home”
Q17e1	<i>plotdistmean</i>	CI > j	average distance (in km) from home to all the plots

	3.2 ± 2.1 (0.01-12.3)		GLM [<i>+fscexploit*</i> , <i>-age*</i> , <i>+plsgovorg**</i> , <i>+plotareatot***</i> , <i>-plottrevenmild**</i> , <i>+plotsteepslope*</i>] R ² =35%; GLM [<i>+sawlog**</i> , <i>+fscexploit*</i>] R ² =17%
Q17e2	<i>plotdistmax</i>	CI > b	distance (in km) of the most distant plot to the home
	5.1 ± 5.6 (0.01-30)		GLM [<i>+fscexploit*</i> , <i>-age*</i> , <i>+firsteucalypt*</i> , <i>+plsgovorg*</i> , <i>+plotnumber*</i> , <i>+plotsizemax***</i> , <i>+plotmedslope**</i> , <i>+plotsteepslope*</i>] R ² =51%; GLM [<i>+sawlog***</i> , <i>+fscexploit***</i>] R ² =27%
Q17e3	<i>plotdistmin</i>	CI > b	distance (in km) from home to the nearest plot
	1.9 ± 1.5 (0.01-200)		GLM [<i>+fscexploit*</i> , <i>-genderW*</i> , <i>-age*</i> , <i>+plrprogram*</i> , <i>-plotnumber**</i> , <i>+plot-sizemax*</i> , <i>-plottreven**</i> , <i>-plotmildslope*</i>] R ² =22%; T-Test [<i>+districtAL**</i>]
Q17e4	<i>plotdist</i>	CI > b	distance (in km) from home to specific plots
	3.7 ± 4.1 (0.01-30; N=423)		GLM [<i>+sawlog***</i> , <i>+fsc(sawlog)***</i> , <i>+plotcoown(sawlog,fsc)***</i> , <i>-plotsawlog(sawlog)*</i> , <i>-plotfsc(sawlog,fsc,plotsawlog)**</i>] R ² =14% (<i>plotfsc</i> is whether (1) or not (0) plot was FSC-certified; <i>plotsawlog</i> is whether (1) or not (0) plot was stocked with sawlog; <i>plotcoown</i> is whether (1) or not (0) plot was co-owned); ANOVA [<i>+plotterrain***</i>]
Q17f	<i>plotterrain</i>	O	“Q17a > indicate the slope steepness of the plot”
Q17f1	<i>plottreven</i>	CI > s	percentage of plot area on relatively even terrain
	12.1 ± 26.5 (47; 0-100)		KW [<i>-districtAL***</i>]
Q17f2	<i>plotmildslope</i>	CI > s	percentage of plot area on mildly sloping terrain (~4°-10° steepness)
	44.8 ± 40.3 (121; 0-100)		KW [<i>-districtAL***</i>]
Q17f3	<i>plotmedslope</i>	CI > s	percentage of plot area on medium sloping terrain (10°-30° steepness)
	40.6 ± 39.4 (109; 0-100)		KW [<i>+districtAL***</i>]
Q17f4	<i>plotsteepslope</i>	CI > s	percentage of plot area on steeply sloping terrain (>30° steepness)
	2.5 ± 12.6 (8; 0-100)		-
Q17f5	<i>plottrevenmild</i>	CI > b	percentage of plot area on even or mildly sloping terrain (<10° steepness)
	56.9 ± 40.4 (140; 0-100)		KW [<i>-districtAL***</i>]
Q17g	<i>plotharvest</i>	CI	“Q17a > for each plot indicate the time (years) until harvesting of the trees”
Q17g1	<i>plotharvestmean</i>	CI > ln	average time (years) from planting until acacia tree harvesting
	5.5 ± 1.2 (3.5-8)		-
Q17g2	<i>plotharvestmax</i>	CI > b	maximum time (years) until acacia tree harvesting
	6.1 ± 1.4 (3.5-8)		GLM [<i>+districtAL***</i> , <i>-districtHT***</i> , <i>+sawlog***</i> , <i>+fsc(sawlog)***</i> , <i>-genderW*</i> , <i>+age*</i> , <i>+education**</i> , <i>-plotnumber***</i> , <i>+plotdistmean*</i>] R ² =81%
Q17g3	<i>plotharvestmin</i>	CI > b	minimum time (years) from planting until acacia tree harvesting
	4.9 ± 1.3 (3.5-8)		-
Q17g4	<i>plotharvestwgtl</i>	CI > ln	time until harvesting weighted by plot area% (sum [time*area %] of all plots)
	5.3 ± 1.3 (1.4-8)		GLM [<i>+districtAL***</i> , <i>-districtHT***</i> , <i>+sawlog***</i> , <i>+plotFSC%***</i>] R ² =77%
Q17g5	<i>plotharvestsaw</i>	CI > b	average time of sawlog harvest on sawlog plots
	6.8 ± 0.8 (5-8)		GLM [<i>+ethnmin***</i> , <i>+fsc***</i>] R ² =68%

Table S7. Summary of Part 3 variables (Plantation assets during the survey [year 2018]) continued, and summary of Part 4 variables (Management of acacia plantations [year 2018]). For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics	Statistical test and predictor variables	
Part 3: Plantation assets during the survey (year 2018) [continued]			
Q17g6	<i>plotharvestchip</i>	CI > b	time until harvesting weighted by plot area% (sum [time*area %] of all plots)
	4.4 ± 0.5 (3.5-6)	GLM [<i>+districtAL***, -genderW*, +plotnumber*, -plotchiptimb*</i>] R ² =77%	
Q17h	<i>plotburn%</i>	CI > s	percentage plot area which is usually burnt after harvesting
	43.2 ± 46.3 (92; 0-100)	GLM [<i>+districtAL**, +age***, -plantduration*, -plotharvestmax*, -plotFSC%***, -fieldcassava*, -plrprogram*, -plsngo**, -plottrevenmild*</i>] R ² =45%; GLM [<i>+districtAL*, -sawlog***, -fsc(sawlog)***, -districtHT×sawlog*, -education**, -plantduration*, +plsgovorg**, -plottreven*, -plestlandlive*</i>] R ² =46%	
Q17j	<i>plotFSC%</i>	CI > s	percentage of plot area which is managed under an FSC certificate
	30.2 ± 38.2 (87; 0-100)	GLM [<i>+districtAL*, +districtAL×sawlog***, -districtHT×sawlog*, +plstselling***, +plotchiptimb**, +plotharvestwtl***, -plotmedslope*</i>] R ² =75%; analysis of fsc(1) only: SLR [<i>-districtPL**, +plotchiptimb***</i>] R ² =85%	
Q18	<i>plotsothertree</i>	CI	“Please list size (ha) for other tree plots under your cultivation management.”
Q18a	<i>plotrubber</i>	CI	area (hectares) of rubber plots cultivated by the respondent
	0.4 ± 1.1 (32; 0-6)	Not incl. <i>districtAL</i> : GLM [<i>+districtHT*, +firstrubber***, +plspFSC***</i>] R ² =25%	
Q18b	<i>plotcroptree</i>	CI	area (hectares) of other tree plots cultivated by the respondent
	0.01 ± 0.08 (6; 0-1); i.e. pepper (<i>Piper nigra</i> , plots of 0.2 ha, 2 respondents), areca palm (0.1 ha), fruit trees (1 ha), banana trees (0.1 ha), coffee plot (0.2 ha)		
Q19	<i>fieldcrops</i>	CI	“Please list size (ha) for other crop fields under your cultivation management.”
Q19a	<i>fieldcassava</i>	CI > s	area (hectares) of cassava fields cultivated by the respondent
	0.03 ± 0.12 (17; 0-1)	Only analysed for A Luoi (15 respondents; 2 in Phu Loc): GLM [#] [<i>-education***, -plantduration***, +plotmedslope*, +fsc**, -plestlandforest*</i>] R ² =52%	
Q19b	<i>fieldrice</i>	CI > s	area (hectares) of rice fields cultivated by the respondent
	0.07 ± 0.12 (64; 0-0.5)	GLM [<i>+districtAL***, +age*</i>] R ² =9%	
Q19c	<i>fieldother</i>	CI	area (hectares) of other crop fields cultivated by the respondent
	0.01 ± 0.08 (4; 0-1); i.e. grapefruit (0.1 ha), lotus flower (1 ha), corn (0.1 ha), soybean (0.1 ha)		
Q20a	<i>plotsideincome</i>	N	“Did you gain a side income from your acacia plots? If yes, which one?”
Q20a1	<i>plotsidebees</i>	B	A: income from beekeeping (or rental for beekeepers)
	noted by 7		(6 in Phu Loc, 1 in Huong Tra)
Q20a2	<i>plotsidefirewd</i>	B	A: income from firewood collection (or allowance for firewood collection)
	noted by 22		Not including data for A Luoi (only one respondent): GLM [<i>+districtPL*, -sawlog**, -education*, -plantduration*, -plotnumber*</i>] R ² =46%
Q20b	<i>incomeotherag</i>	B	“Did you gain a side income from other plantations? If yes, which ones?”
	yes (115), no (65)		-
Q20b1	<i>incomemidmen</i>	B	A: income as a middleman (e.g. acacia wood trading)
	noted by 9		(5 in Phu Loc, 4 in Huong Tra; all <i>fsc</i>)

Q20b2	<i>incomewagearn</i>	B	A: income as a wage earner, or collaborator with others on their plot
	noted by 107		BLR [<i>+districtAL*</i> , <i>-sawlog*</i> , <i>-fsc**</i> , <i>-plrprogram**</i> , <i>-plsttraining**</i>] R ² =48%
Q20b3	<i>incomesawyer</i>	B	A: income as a sawyer
	noted by 2		(1 in Phu Loc, 1 Huong Tra)
Part 4: Management of acacia plantations (year 2018)			
Q21	<i>pmintercropping</i>	QS	“Do you apply intercropping for your acacia plantations? Please give details.”
Q21a	<i>pmintercropcass</i>	B	A: cassava intercropping in the first years after harvesting (planted with acacia)
	noted by 32		BLR [<i>+districtAL***</i> , <i>+districtPL*</i> , <i>-sawlog*</i> , <i>+fieldcassawa***</i>] R ² =29%
Q22	<i>pmersioncont</i>	QS/B	“Do you apply measures for erosion control during plantation management?”
	yes (97), no (83)		BLR [<i>-districtAL***</i> , <i>+fsc*</i> , <i>+ploharvestmax***</i>] R ² =35%

Table S8. Summary of Part 4 variables (Management of acacia plantations [year 2018]) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics	Statistical test and predictor variables	
Part 4: Management of acacia plantations (year 2018) [continued]			
Q22a	<i>pmersionoburn</i>	B	A: no burning after harvesting
	noted by 89	BLR [- <i>districtAL***</i> , + <i>sawlog*</i> , + <i>fsc***</i>] R ² =30%; BLR [- <i>districtAL***</i> , + <i>education**</i> , + <i>plotareatot*</i> , + <i>plotharvestmax**</i>] R ² =37%; BLR [- <i>districtAL***</i> , + <i>districtHT*</i> , - <i>plstloan*</i> , + <i>plstfertilizer***</i> , + <i>plestlandlive*</i> , - <i>plotsidefirewd**</i> , + <i>plotsizemax*</i> , + <i>plotharvestmax*</i>] R ² =52%	
Q22b	<i>pmersionYpl</i>	B	A: Y-shaped planting
	noted by 8	-	
Q22c	<i>pmersionsafev</i>	B	A: conserve/safeguard some natural vegetation
	noted by 55	BLR [+ <i>fsc***</i> , - <i>plrlearn*</i> , + <i>plstfertilizer***</i> , + <i>plotdistmax***</i>] R ² =46% BLR [+ <i>honorary*</i> , + <i>plstfertilizer***</i> , + <i>plotdistmax**</i> , + <i>pmthinning***</i>] R ² =48%	
Q22d	<i>pmersionladd</i>	B	A: design of a ‘ladder’ in the plantation
	noted by 3	-	
Q22e	<i>pmersiontime</i>	N	A: “I narrow the period of harvest to planting & plant in the early dry season.”
	noted by 1	-	
Q23a	<i>pmcontrcond</i>	QS	“Do plantations operate under conditions/support of contractual agreements?”
Q23a1	<i>pmcontrFSC</i>	B	A: yes, under FSC contract agreements
	noted by 89	(identical with <i>fsc</i>)	
Q23a2	<i>pmcontrWB3</i>	B	A: yes, under WB3 contract agreements
	noted by 4	-	
Q23b	<i>pmFSCjoin</i>	QS	“In which year did you join FSC, and why did you join FSC?”
Q23b1	<i>pmFSCyear</i>	DI	number of years the respondent is managing the plantation under FSC
	1.3 ± 0.5 (89; 0.5-2)	Anylsing only <i>fsc</i> (1): GLM [+ <i>districtPL**</i> , + <i>plotareatot*</i>] R ² =9%	
Q23b2	<i>pmFSCrlearn</i>	B	A: reason: learning (“I learned about FSC by joining information meetings”)
	noted by 14	Only <i>fsc</i> (1), <i>districtPL</i> (1): BLR [- <i>age**</i> , + <i>plotharvestwgtI**</i> , - <i>plrlearn*</i>] R ² =41%	

Q23b3	<i>pmFSCrparti</i>	B	A: reason: mobilize (“I was mobilized to participate” or “leading as example”)
	noted by 50		Only <i>fsc</i> (1): BLR [- <i>districtPL</i> **, - <i>plstcertify</i> **] R ² =29%; BLR [- <i>districtPL</i> ***, - <i>plspFSC</i> **, + <i>pltharvestmax</i> **] R ² =35%; Chisq [+ <i>districtAL</i> **], [- <i>districtPL</i> **]
Q23b4	<i>pmFSCrbenef</i>	B	A: reason: economic benefit (“I saw economic benefit in participation”)
	noted by 42		Excluding <i>fsc</i> (0) and <i>districtAL</i> (1): BLR [- <i>districtPL</i> *, + <i>age</i> *, - <i>plspFSC</i> *] R ² =24%; Chisq [+ <i>districtPL</i> **], (none in A Luoi)
Q23b5	<i>pmFSCrosupp</i>	B	A: reason: related to other types of ‘support’
	noted by 2		-
Q24a	<i>pmtpcutting</i>	B	“What planting method do you apply?” A: cutting propagation techniques
	noted by 180 (all)		-
Q24b1	<i>pmthinning</i>	O	“Do you apply silvicultural practices in your plantations?” > thinning
	no (116), not yet (39), yes (25)		Ordinal scale: GLM [#] [+ <i>sawlog</i> ***, + <i>fsc</i> (<i>sawlog</i>) ***, + <i>fscexploit</i> (<i>fsc</i>) ***, - <i>districtAL</i> × <i>fsc</i> (<i>sawlog</i>) *, + <i>education</i> ***, - <i>incomewagearn</i> **] R ² =90%
Q24b2	<i>pmthinfreq</i>	O	Q24b1 > “How many times do you apply thinning during a plantation rotation?”
	0 (154), 25 (1), 1 (2)		-
Q24b3	<i>pmthinropen</i>	B	Q24b1 > “What was the reason for thinning?” A: “open space for tree growth”
	noted by 25		BLR [+ <i>fscexploit</i> **] R ² =78%
Q24b4	<i>pmthinrsell</i>	B	Q24b1 > “What was the reason for thinning?” A: “to sell the wood”
	noted by 23		(cf. Q24b3)
Q24b5	<i>pmthintime</i>	DI	Q24b > “If stated ‘not yet thinning’ after how many years will it be done?”
	2.8 ± 1.7 (39; 0-7)		analysis of <i>pmthinning</i> (=not yet): GLM [- <i>plantduration</i> **, + <i>plrlearn</i> **] R ² =50%
Q24c1	<i>pmpruning</i>	B	“Do you apply silvicultural practices in your plantations?” > pruning
	yes (160), no (20)		Excluding <i>districtPL</i> (1) (all do pruning in PL): BLR [- <i>districtAL</i> *, + <i>plotareatot</i> *, + <i>pltharvestwtg</i> *, + <i>plottrevenmild</i> *] R ² =25%

Table S9. Summary of Part 4 variables (Management of acacia plantations [year 2018]) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 4: Management of acacia plantations (year 2018) [continued]			
Q24c2	<i>pmprunfreq</i>	O	Q24c1 > “How many times do you apply pruning during a plantation rotation?”
	0 (20), 1 (70), 2 (90)	OLR [<i>+education*</i> , <i>+plsttraining*</i> , <i>+plotnumber*</i> , <i>+plottrevenmild**</i>] R ² ≈23%	
Q24c3	<i>pmpruntrunk</i>	B	Q24c1 > “What was the reason for pruning?” A: “develop the main tree trunk”
	noted by 148	Only <i>pmpruning</i> (1): BLR [<i>+plotnumber***</i> , <i>-plotchiptimb*</i>] R ² =29%	
Q24c4	<i>pmprunthin</i>	B	Q24c1 > “What was the reason for pruning?” A: “thin out multiple trunks”
	noted by 111		Chisq [<i>+fsc*</i>]
Q24d1	<i>pmweeding</i>	B	“Do you apply silvicultural practices in your plantations?” > weeding
	yes (159), no (21)		BLR [<i>-districtAL***</i> , <i>-districtPL*</i> , <i>+plotareatot**</i>] R ² =20%
Q24d2	<i>pmweedfreq</i>	O	Q24d1 > “How many times do you weed the plots during a rotation cycle?”
	0 (21), 1 (31), 2 (110), 3 (19)	OLR [<i>-districtAL***</i> , <i>+districtHT***</i> , <i>+plsttraining**</i> , <i>+plotnumber*</i>] R ² ≈31%	

Q24e1	<i>pmfertilizer</i>	B	“Do you apply silvicultural practices in your plantations?” > fertilizer use
	yes (143), no (37)		BLR [- <i>districtAL</i> ***, + <i>education</i> **, + <i>plotchiptimb</i> *, - <i>plottrevenmild</i> *, + <i>pmweedfreq</i> **, + <i>pmerosioncontrol</i> *) R ² =55%; BLR [- <i>districtAL</i> ***, - <i>plotburn</i> ***] R ² =39%
Q24e2	<i>pmfertNPKhigh</i>	B	Q24e1 > “What type of fertilizer?” A: NPK soil fertilizer mix 16:16:8
	noted by 128		-
Q24e3	<i>pmfertNPKlow</i>	B	Q24e1 > “What type of fertilizer?” A: NPK soil fertilizer mix 10:10:5
	noted by 15		-
Q24e4	<i>pmfertfreq</i>	O	Q24e1 > “How many times do you apply fertilizer during a rotation cycle?”
	0 (37), 1 (71), 1.5 (5), 2 (67)		OLR [- <i>districtAL</i> ***, + <i>sawlog</i> ***, + <i>education</i> **, + <i>plsgovorg</i> **, - <i>plspFSC</i> **, + <i>pmerosionburn</i> *, + <i>pmweedfreq</i> **] R ² ≈60%
Q24f	<i>pmharvest</i>	N	“In which seasonal time do you usually harvest your acacia plots?”
Q24f1	<i>pmharvestdry</i>	B	A: during the dry season
	noted by 106		BLR [+ <i>sawlog</i> ***, + <i>districtHT</i> ***, + <i>plantduration</i> **, - <i>pmintercroppass</i> *, + <i>pmerosioncontrol</i> *) R ² =29%
Q24f2	<i>pmharvestwet</i>	B	A: during the rainy season
	noted by 4		(Phu Loc only)
Q24f3	<i>pmharvestdep</i>	B	A: it depends on economic and logistic circumstances
	noted by 70		BLR [- <i>sawlog</i> ***, - <i>districtHT</i> ***, - <i>education</i> *, - <i>plantduration</i> ***, + <i>pltsel-ling</i> *, - <i>pmerosioncontrol</i> *) R ² =30%
Q24f4	<i>pmharvreason</i>	N	“Why do you harvest during that time?”
	A: “it is easy for harvesting and transport” (115); “it depends on economic conditions” (59); “the wood is heavy” (4); “the price for selling is good in that time” (2)		“easy transport”: <i>pmharvestdry</i> >(102), <i>pmharvestdep</i> >(13); “economic conditions”: <i>pmharvestdep</i> >(57), <i>pmharvest-dry</i> >(2); “wood is heavy”: only <i>pmharvestwet</i> >(4); “price is good: only <i>pmharvestdry</i> >(2)
Q24g	<i>pmreplantcy</i>	QS	“How many days does it take from harvesting to the time you replant the plots?”
Q24g1	<i>pmreplantsdl</i>	B	A: “as soon as I have money to buy seedlings”
	noted by 25		BLR [+ <i>districtAL</i> ***, + <i>plotahybrid</i> **, - <i>pmfertfreq</i> **, + <i>incomewagearn</i> *) R ² =62% analysed for ALD only: BLR [+ <i>plotahybrid</i> **, - <i>pmfertfreq</i> **, + <i>incomewagearn</i> *) R ² =46%
Q24g2	<i>pmreplantday</i>	O	ordinal category in days (from less than one to more than two months)
	<30 (64); 30-60 (50); >60 (41)		Only <i>pmreplantsdl</i> (0): OLR [- <i>fsc</i> *, + <i>districtAL</i> ***, - <i>districtPL</i> ***, - <i>plestlandlive(y/n)</i> *, - <i>plotnumber</i> *, - <i>plotharvestwgtl</i> *, - <i>pmerosioncontrol</i> **] R ² ≈64%
Q25	<i>pmchange</i>	N	“Since you started planting acacias did you change any management regime?”
Q25a	<i>pmchshortlong</i>	B	A: “Yes, I changed from short to longer-term rotations of plantations.”
	noted by 99		Only <i>sawlog</i> (1): BLR [+ <i>fsc</i> **, + <i>education</i> *, + <i>districtAL</i> **, + <i>pmerosioncontrol</i> **] R ² =46%
Q25b	<i>pmchchiptimb</i>	B	A: “Yes, I changed from woodchip to timber plantation management.”
	noted by 66		Only <i>sawlog</i> (1): BLR [+ <i>fscexploit</i> ***, - <i>districtPL</i> *, - <i>plneedloan</i> *, + <i>pmprunfreq</i> *) R ² =23%

Table S10. Summary of Part 4 variables (Management of acacia plantations [year 2018]) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics	Statistical test and predictor variables	
Part 4: Management of acacia plantations (year 2018) [continued]			
Q25c	<i>pmchjoinfsc</i>	B	A: “Yes, I changed from non-FSC to FSC-certified plantation management.”
	noted by 80		-
Q25d	<i>pmchnointcrop</i>	B	A: “Yes, I changed from intercropping to no intercropping.”
	noted by 26		BLR [<i>+fscexploit</i> × <i>district</i> ***, <i>+plotahybrid</i> **] R ² =15% ; excluding ALD: BLR [<i>-plotareatot</i> *, <i>+plspWWF</i> ***] R ² =10%
Q25e	<i>pmchseedcut</i>	B	A: “Yes, I changed from seeding to cutting propagation techniques.”
	noted by 55		excluding ALD: BLR [<i>+plantduration</i> **, <i>+plotareatot</i> *, <i>+plneedloan</i> *) R ² =18%
Q25f	<i>pmchthinning</i>		A: “Yes, I started to do thinning in plantations.”
	noted by 18		(only FSC-farmers in Phu Loc)
Q25g	<i>pmchpruning</i>		A: “Yes, I started to do pruning in plantations.”
	noted by 13		(nine in Phu Loc)
Q25h	<i>pmchweeding</i>	B	A: “Yes, I changed from no weeding to weed management.”
	noted by 55		<i>pmweeding</i> (1) only: BLR [<i>+districtPL</i> ***, <i>+age</i> *, <i>-firsteucalypt</i> *, <i>+fscexploit</i> *) R ² =13%
Q25i	<i>pmchfertilize</i>		A: “Yes, I started to apply fertilizer in plantations.”
	noted by 19		BLR [<i>+districtPL</i> ***, <i>-plotharvestwgtI</i> **, <i>-incomewageearn</i> **] R ² =18%
Q25j	<i>pmchnopest</i>	B	A: “Yes, I changed from using pesticides to not using pesticides.”
	noted by 53		BLR [<i>-districtHT</i> ***, <i>sawlog</i> × <i>district</i> *, <i>fscexploit</i> × <i>district</i> *, <i>+plotareatot</i> *, <i>+plotchiptimb</i> **] R ² =15%
Q25k	<i>pmchmachine</i>	B	A: “Yes, I changed from hand management to using machines.”
	noted by 124		BLR [<i>-districtAL</i> ***, <i>+education</i> *, <i>-incomewageearn</i> *, <i>+pmerosioncontrol</i> **] R ² =35%
Q25l	<i>pmchnoburn</i>	B	A: “Yes, I changed from post-harvest plot burning to no use of fires.”
	noted by 43		BLR [<i>-districtAL</i> *, <i>+fsc</i> **, <i>+fscexploit</i> *, <i>-plotburn%</i> ***] R ² =34%
Q26	<i>selltowhom</i>	N	“To whom do you sell your acacia products?”
Q26a	<i>sellmiddle</i>	B	A: to a middle-man
	noted by 141		BLR [<i>-fscexploit</i> *, <i>-plotareatot</i> ***, <i>-plspWWF</i> ***] R ² =55% BLR [<i>-fscexploit</i> ***, <i>-plotareatot</i> ***, <i>-plstcertify</i> *) R ² =51% BLR [<i>-fscexploit</i> ***, <i>-plotareatot</i> ***, <i>-plsngo</i> *) R ² =51%
Q26b	<i>sellmill</i>	B	A: directly to the paper/saw mill
	noted by 42		BLR [<i>+fscexploit</i> ***, <i>+plotareatot</i> ***, <i>+plsngo</i> **] R ² =54%; BLR [<i>+fscexploit</i> *, <i>+plotareatot</i> **, <i>+plspWWF</i> ***, <i>+plstcertify</i> *, <i>-plstselling</i> *) R ² =54%
Q27	<i>harvestbywho</i>	N	“Who is cutting the trees during harvest time?”
Q27a	<i>harvowner</i>	B	A: the owner (respondent)
	noted by 10		(four FSC-farmers in HT, five in PL; one non-FSC-farmer in PL; none in AL); analysed for <i>sellmill</i> (1): BLR [<i>+education</i> ***, <i>+plantduration</i> ***, <i>-plotareatot</i> ***] R ² =49%; T-test [<i>-age</i>]*
Q27b	<i>harvbuyer</i>	B	A: the buyer of the wood

	noted by 139	(all except two identical with <i>sellmiddle</i>) (all except three non-FSC-farmers); analysed for FSC-farmers only: BLR [- <i>fscexploit</i> ***, - <i>plsngo</i> ***, + <i>pmintercropcass</i> *] $R^2=37\%$; BLR [- <i>fscexploit</i> ***, <i>district</i> *] $R^2=28\%$; Chisq [+ <i>districtAL</i> ***]	
Q27c	<i>harvteamhire</i>	B	A: “I hire a team to do the harvesting.”
	noted by 34	(all except two <i>sellmill</i>) (all except three FSC-farmers); analysed for FSC-farmers: BLR [+ <i>fscexploit</i> **, + <i>age</i> *, + <i>education</i> **, + <i>plsngo</i> *, + <i>plneedloan</i> *, - <i>pmintercropcass</i> *] $R^2=38\%$; Chisq [- <i>districtAL</i> **]	
Q28	<i>transpywho</i>	N	“Who is transporting the wood products to the factory after harvesting?”
Q28a	<i>transpowner</i>	B	A: the owner (respondent)
	noted by 10	(same as Q27a)	
Q28b	<i>transpbuyer</i>	B	A: the buyer of the wood
	noted by 138	(two harvesters not transporting, one tr. not harvesting; otherwise same as Q27c)	

Table S11. Summary of Part 4 variables (Management of acacia plantations [year 2018]) continued. For descriptions of table content and summary statistics refer to Table S1.

QQ No	Variable name	Data type	Questionnaire question / information
transf.	Summary statistics		Statistical test and predictor variables
Part 4: Management of acacia plantations (year 2018) [continued]			
Q28c	<i>transpteamhire</i>	B	A: “I hire a team to do the transport.”
	noted by 33		(one harvester team not transporting; otherwise same as Q27c)
Q29	<i>hirelabor</i>	B	“Do you hire labor to work on your acacia plantations?”
	yes (153), no (37)	BLR [<i>+fscexploit*</i> , <i>-districtPL***</i> , <i>+plotareatot**</i> , <i>+plsngo**</i> , <i>-pmthinning**</i> , <i>+pmprufreq**</i>] R ² =21%; BLR [<i>-districtPL***</i> , <i>-genderW*</i> , <i>+plotnumber***</i> , <i>-plotchiptimb**</i> , <i>+plottrevenmild*</i> , <i>-plotsidefirewd**</i>] R ² =31%; Chisq [<i>-districtPL*</i>]	
Q30	<i>hiredbyother</i>	B	“Do you work on acacia plantations which are owned by others?”
	yes (103), no (77)	BLR [<i>+districtAL**</i> , <i>-age*</i> , <i>-education*</i> , <i>-plrprogram***</i> , <i>-plstraining**</i>] R ² =37%; BLR [<i>+districtPL*</i> , <i>-age**</i> , <i>-education*</i> , <i>+plrlearn*</i> , <i>-pmfertfreq***</i> , <i>+incomewagearn***</i>] R ² =44%; Chisq [<i>+districtAL*</i>]	
Q31	<i>pmriparian</i>	B	“Did you plant acacia trees near the water streams?”
	yes (75), no (105)	BLR [<i>-districtHT*</i> , <i>-plspPr661*</i> , <i>+plstloan*</i> , <i>-plstfertilizer*</i> , <i>-plotharvestmax**</i> , <i>+pmintercropcass*</i> , <i>+pmweedfreq*</i>] R ² =12%; Chisq [<i>-sawlog**</i>] [<i>-fsc**</i>]	
Q32a	<i>naturalsafe</i>	QS	“Did you plant/conserve/safeguard natural vegetation in specific locations?”
	yes (78), no (102)	BLR [<i>+education*</i> , <i>-plspnone*</i> , <i>-plspPr327*</i> , <i>+plestlandlive(o)**</i> , <i>+plotharvestmax***</i> , <i>+pmersioncontrol**</i> , <i>+pmersionSAFEV***</i> , <i>-pmriparian**</i>] R ² =71%; Chisq [<i>+fsc***</i>]	
Q32b1	<i>natHopea</i>	B	“If yes, please specify the species” > A: <i>Hopea odorata</i>
	noted by 52	analysis of <i>naturalsafe</i> (1) only: BLR [<i>-districtAL**</i> , <i>+fsc***</i> , <i>+plotdistmean**</i>] R ² =37%	
Q32b2	<i>natHomalium</i>	B	“If yes, please specify the species” > A: <i>Homalium hainanense</i>
	noted by 19	<i>naturalsafe</i> (1) only: BLR [<i>+plsngo**</i> , <i>+buyplarea*</i> , <i>+plotdistmax*</i> , <i>+plotFSC%*</i>] R ² =39%	
Q32b3	<i>natnatshrub</i>	B	“If yes, please specify the species” > A: naturally growing shrubs

	noted by 39	<i>naturalsafe</i> (1) only: BLR [<i>+districtAL**</i> , <i>-districtAL*</i> , <i>+education*</i> , <i>-plotFSC%***</i> , <i>-natHopea***</i> , <i>+pmerosioncontrol**</i> , <i>+pmharvestdry**</i> , <i>-pmriparian***</i>] R ² =44%	
Q32b4	<i>natbamboo</i>	B	“If yes, please specify the species” > A: bamboo
	noted by 5	(three in HT, two in PL)	
Q32b5	<i>natChukrasia</i>	B	“If yes, please specify the species” > A: <i>Chukrasia tabularis</i>
	noted by 4	(FSC-farmers, three in HT, one in PL)	
Q32c1	<i>naterosionc</i>	B	“Why do you plant/conservate natural species” > for erosion control
	noted by 50	all <i>naturalsafe</i> ; analysing <i>naturalsafe</i> (1) only: BLR [<i>-districtHT*</i> , <i>+age*</i> , <i>+education*</i> , <i>+plotchip-timb*</i> , <i>+plstloan*</i> , <i>-plotburn%*</i> , <i>+pmerosionburn*</i>] R ² =27%; BLR [<i>+age*</i> , <i>+plotchiptimb*</i> , <i>-pls-govorg*</i> , <i>+plsngo*</i> , <i>+plstloan***</i> , <i>-plotburn%*</i> , <i>+pmerosionburn*</i>] R ² =32%	
Q32c2	<i>natboundary</i>	B	“Why do you plant/conservate natural species” > as a boundary line
	noted by 31	all <i>naterosionc</i> ; analysing <i>naterosionc</i> (1) only: BLR [<i>+plspWWF***</i> , <i>+plstcertify*</i>] R ² =47%; Chisq [<i>+plsttraining***</i>]	
Q32c3	<i>natcontrpest</i>	B	“Why do you plant/conservate natural species” > for pest species control
	noted by 21	all except one <i>naterosionc</i> ; all <i>plspWWF</i> , and all <i>plsttraining</i>	

Supplementary S2: additional notes

Some limitations of the study, and specifications

The study only focussed on acacia tree farmers present in 2018; it did not focus on those who had given up on agriculture and/or plantations (e.g. emigrants to industries in cities) or those farmers who never participated in the ‘acacia boom’. Furthermore, the poorer smallholders (mainly with woodchip-producing plantations) were in reality somewhat underrepresented, since the study aimed to set some focus on timber-producing farmers with and without FSC.

In contrast to closed questions, the open questions of the questionnaire did not limit the range of possible answers, but to some degree the responses were perhaps influenced by the respondents’ nature and interaction with the interviewer. As the study collected information about the history of involvement in plantations certain perceptive biases relating to the memory of respondents may have occurred. Biases may also result from differences of socio-political context and past exposure to specific perspectives. For example, certain training programs may have implanted specific environmental ideas which are now considered important. Whilst respondents who had not participated in such programs may be less explicit and/or focussed on particular issues, this does not exclude the possibility that they also apply certain potentially effective strategies to deal with such issues, within the constraints of their potentials.

Some caution may also be advised with a certain type of reading. We often refer to effects of specific variables. Such variables may not always represent cogent ‘causative factors’ by themselves; they may also be indicators of connected/related causes or patterns. For example, ‘higher education’ does not merely mean ‘more knowledge’ but usually also implies other things, such as better connections within dominant socio-political networks, better access to information, and/or more experience vis-à-vis policy contexts and economic trends. Having noted this, we nonetheless usually refer to specific variables (e.g. ‘level of education’, which refers to the variable ‘years of schooling’, cf. Supplement S1) if these are statistically dominant as predictors over other related and/or correlated variables (for example, past ‘participation in training programs’ or ‘honorary position’), assuming that such statistical dominance imports stronger reliability of results/information (but obviously within constraints of general logical pertinence).