Supplementary Information

Figure S1: Distribution of group-level averages for additional harmonized variables used in regressions. All survey items below are scale items, harmonized for this study to vary from 0 (lowest) to 1 (highest), with the distribution of group-level average values for this harmonized scale shown here.

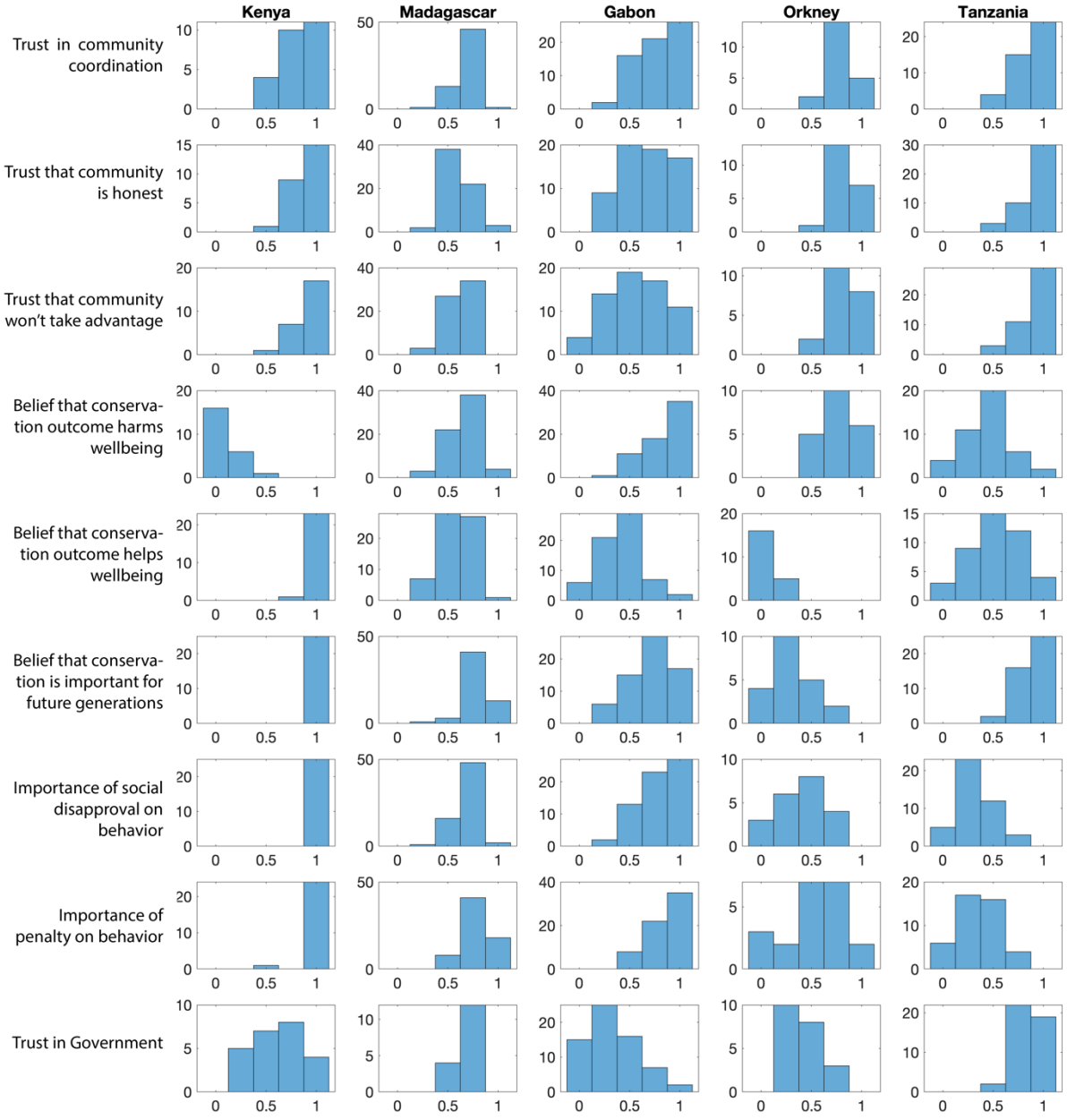


Figure S1 (Cont'd): Distribution of group-level averages for additional harmonized variables used in regressions. All survey items below are scale items, harmonized for this study to vary from 0 (lowest) to 1 (highest), with the distribution of group-level average values for this harmonized scale shown here.

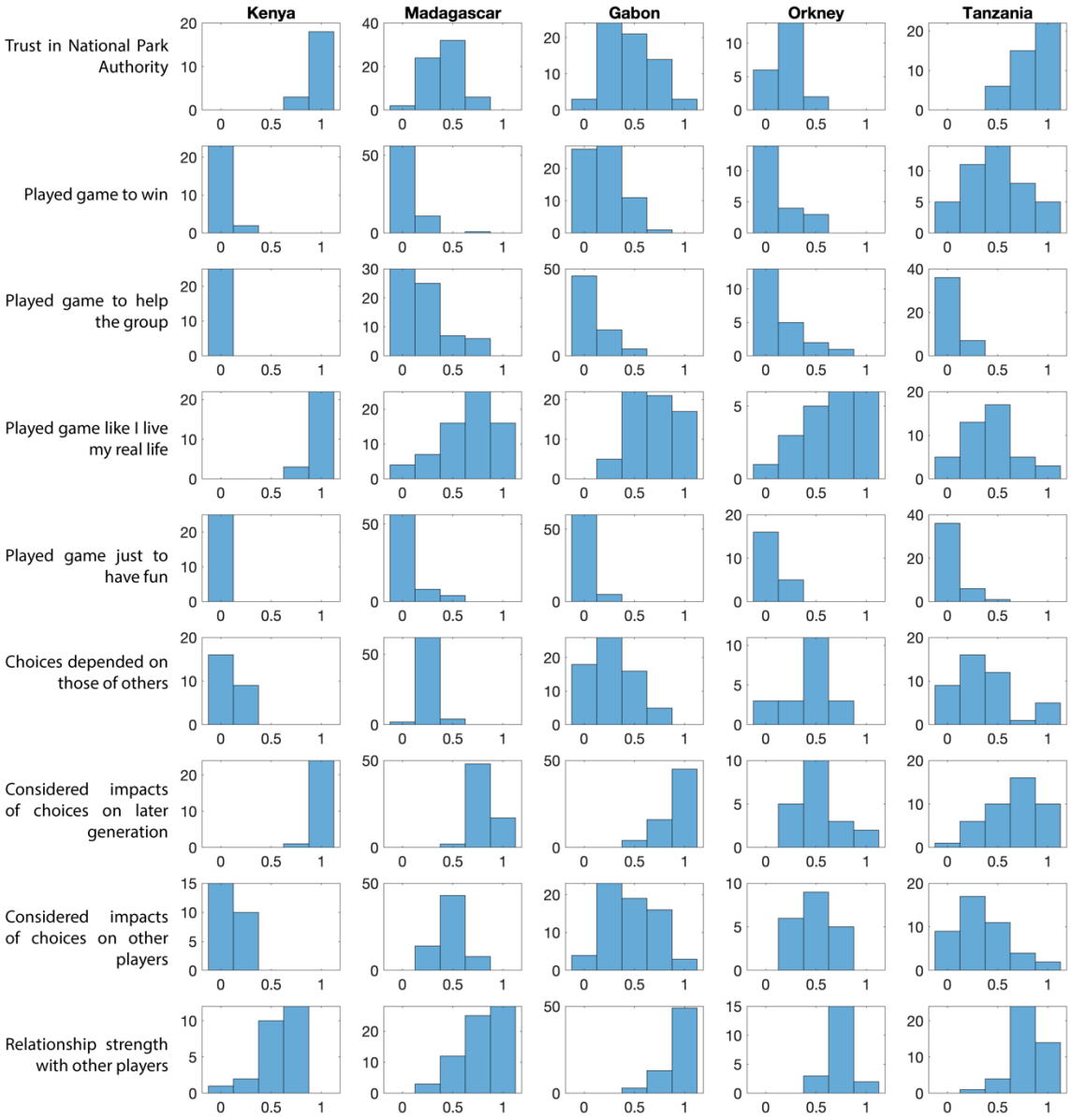


Table S1: Conservation-Production, Conservation, and Production outcomes simple regressions on observables and payment, by country

				Conservation-Production				
VARIABLES	All	Cambodia	Vietnam	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	0.00860	0.572***	0.334***	-0.514***	-0.672***	-0.984***	-0.424***	-0.256***
Age[2]	0.0888**	0.0180	0.172**	0.0813	0.0445	0.116**	-0.215	0.0117
Education[2]	-0.00158	-0.116	-0.105	-0.0940	0.0423	0.0816*	0.0753	0.205**
Fraction female[2]	0.0720**	-0.0230	0.0442	0.0312	0.0712	0.0511	-0.00811	0.216**
Fraction farming as primary income)[2]	-0.00765	0.0874	-0.0748	0.0896	0.0709	-0.0800	0.0514	-0.00534
Constant	-0.00414	-0.212**	-0.158*	0.258	0.336***	0.491***	0.253	0.153*
Observations	14,351	3,744	4,096	514	1,565	1,129	901	2,402
R-squared	0.013	0.104	0.099	0.092	0.124	0.271	0.110	0.147
AIC	40556	10228	11211	1421	4247	2860	2464	6448
				Conservation				
VARIABLES	All	Cambodia	Vietnam	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	0.317***	0.562***	0.298***	-1.051***	0.365***	0.0928	0.422***	0.330***
Age[2]	0.0651*	0.0461	0.180**	0.0512	0.00654	0.0229	0.267	-0.00361
Education[2]	-0.127***	-0.120	-0.0973	-0.0112	0.0217	0.0792	-0.0381	-0.226***
Fraction female[2]	-0.0419	-0.0169	0.0589	-0.00359	0.0186	-0.144***	-0.0191	-0.218**
Fraction farming as primary income)[2]	-0.00800	0.0996	-0.0366	-0.0407	0.0406	-0.0577	-0.00808	-0.0184
Constant	-0.152***	-0.208**	-0.140	0.528***	-0.182**	-0.0463	-0.252	-0.198**
Observations	14,351	3,744	4,096	514	1,565	1,129	901	2,402
R-squared	0.051	0.107	0.086	0.281	0.035	0.026	0.121	0.168
AIC	39989	10212	11268	1301	4398	3186	2452	6386
				Production				
VARIABLES	All	Cambodia	Vietnam	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	-0.360***	-0.494***	0.0711	0.299***	-1.115***	-0.992***	-0.424***	-0.256***
Age[2]	0.00851	-0.140**	0.0260	0.0348	0.0510	0.113**	-0.239	0.0117
Education[2]	0.0751**	0.103	-0.0448	-0.0490	0.0325	0.0731*	0.0586	0.205**
Fraction female[2]	0.0659**	0.0405	-0.0255	0.0305	0.0518	0.0673	0.00391	0.216**
Fraction farming as primary income)[2]	-0.0539*	-0.0989	-0.108	0.0785	0.0388	-0.0743	0.0305	-0.00534
Constant	0.173***	0.183**	-0.0335	-0.150	0.557***	0.495***	0.253	0.153*
Observations	14,351	3,744	4,096	514	1,565	1,129	901	2,402
R-squared	0.047	0.108	0.018	0.035	0.317	0.275	0.114	0.147
AIC	40043	10208	11560	1452	3856	2854	2459	6448

[1]Dummy variable; [2]Z-score of group mean or fraction

*** p<0.01, ** p<0.05, * p<0.1

Table S2: Variance Inflation Factor for explanatory variables, and Conservation-Production regressions by country dataset

VARIABLES	Variance Inflation Factor	Conservation-Production					
		All Countries	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	1	-0.527***	-0.504***	-0.670***	-0.984***	-0.439***	-0.253***
Age[2]	1.22	0.0579	-0.327***	0.199**	0.147***	-0.373	0.102**
Education[2]	1.32	0.138***	0.736***	0.129*	0.0863	-0.0490	0.143*
Fraction female[2]	1.36	0.0709*	-0.438***	0.0167	0.169	0.269	0.117
Fraction farming as primary income[2]	1.68	-0.0410	-0.300***	-0.0752	-0.147	-2.406*	-0.0250
Fraction farming as secondary income[2]	1.61	-0.127**	-0.836***	-0.181**	-0.0920	-2.113*	-0.199*
Difference in gender[3]	1.24	0.0770**		0.00630	-0.0669	-0.0392	0.0157
Trust in community coordination	1.18	-0.0678	0.698***	0.0145	0.0775*	-0.344*	0.00340
Trust that community is honest	1.77	-0.0840*	0.551***	-0.0834	0.0448	-0.337**	-0.0905
Trust that community won't take advantage	1.78	0.0459	1.309***	0.00227	-0.100	0.468**	0.0876
Belief that conservation outcome harms wellbeing	1.3	-0.0510	0.0178***	-0.152**	-0.0674	0.307	-0.125
Belief that conservation outcome helps wellbeing	1.43	-0.101***		-0.167**	0.0260	-0.201	0.101*
Belief that conservation is important for future generations	1.47	0.0102	0.304***	0.189***	-0.0821		-0.189**
Importance of social disapproval on behavior	1.5	0.0166	-1.110***	0.0347	0.0415		0.198**
Importance of penalty on behavior	1.54	0.0356	-0.0110***	-0.00257	-0.00155		-0.0100
Trust in Government[2]	1.36	-0.00778	0.199***	-0.0969	0.0301	0.131	0.0255
Trust in National Park Authority[2]	1.52	-0.0462	0.505***	-0.0922	-0.0914	0.397	-0.166*
Played game to win	4.26	0.0620	0.197***	0.203***		0.0285	0.240**
Played game to help the group	3.32	-0.0473	0.925***	0.00949	-0.0691		0.208
Played game like I live my real life	5.95	-0.0770	-0.0793***		0.145***	-0.330	0.186
Played game just to have fun	1.87	-0.0113		-0.0492	-0.0648*		0.109
Choices depended on those of others	1.43	0.0520	-0.626***	-0.0437	-0.144**	-0.143	0.115**
Considered impacts of choices on later generation	1.13	0.0258	-0.849***	0.0528	0.149**	0.665**	-0.190**
Considered impacts of choices on other players	1.37	-0.0301		0.0888	0.0514	-0.129	-0.0579
Relationship strength with other players	1.28	-0.0726*	-0.296***	-0.0463	0.104*	0.218	-0.206***
Constant		0.290***	0.253***	0.335***	0.491***	0.262**	0.152***
Observations		6,511	514	1,565	1,129	901	2,402
R-squared		0.179	0.332	0.211	0.319	0.484	0.389
AIC		17245	1253	4120	2821	1998	5684

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table S3: Conservation regressions by country dataset

	Conservation					
VARIABLES	All Countries	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	0.198***	-1.062***	0.368***	0.0881	0.423***	0.331***
Age[2]	-0.0212	0.200***	0.120	0.140**	0.477	-0.0768
Education[2]	-0.0941**	-0.0167***	-0.0160	-0.0195	0.167	-0.171**
Fraction female[2]	-0.0716*	0.0642***	-0.0272	-0.103	-0.261	-0.114
Fraction farming as primary income[2]	0.00290	1.032***	-0.115	-0.242***	2.754**	-0.0243
Fraction farming as secondary income[2]	0.0394	0.383***	-0.183**	0.0167	2.371*	0.147
Difference in gender[3]	-0.0535		-0.00265	-0.103	0.0705	-0.0242
Trust in community coordination	0.0623*	-0.591***	-0.0155	0.0113	0.308*	-0.0358
Trust that community is honest	0.0738	-0.659***	-0.0181	-0.00397	0.274*	0.0970
Trust that community won't take advantage	-0.0501	-0.372***	-0.0757	0.149*	-0.391*	-0.102
Belief that conservation outcome harms wellbeing	-0.0131	-0.428***	-0.167**	-0.145*	-0.313	0.152**
Belief that conservation outcome helps wellbeing	0.0549		-0.00946	-0.00297	0.151	-0.0636
Belief that conservation is important for future generations	0.0913**	0.271***	0.144**	0.192***		0.157*
Importance of social disapproval on behavior	-0.0800*	0.407***	-0.0194	-0.136***		-0.177**
Importance of penalty on behavior	0.0336	0.0151***	0.0893	0.210***		-0.0131
Trust in Government[2]	-0.0728	-0.448***	-0.0101	-0.0625	-0.0454	-0.0616
Trust in National Park Authority[2]	0.0193	-0.388***	-0.177*	0.161	-0.441*	0.185*
Played game to win	-0.135**	-0.375***	0.137*		-0.0103	-0.262**
Played game to help the group	-0.0172	-0.308***	0.0577	-0.0289		-0.195
Played game like I live my real life	-0.0207	-0.290***		-0.0288	0.269	-0.199
Played game just to have fun	-0.0441		-0.0540	0.0715		-0.140
Choices depended on those of others	-0.102***	-0.102***	0.00704	-0.278***	0.320	-0.0967*
Considered impacts of choices on later generation	0.0830	0.700***	0.185***	-0.148**	-0.746***	0.204***
Considered impacts of choices on other players	0.0117		-0.0425	0.156**	-0.0374	0.0398
Relationship strength with other players	0.136***	0.0577***	0.0744	-0.149*	-0.301	0.237***
Constant	-0.109**	0.533***	-0.184**	-0.0439	-0.253**	-0.198***
Observations	6,511	514	1,565	1,129	901	2,402
R-squared	0.126	0.468	0.145	0.109	0.458	0.408
AIC	17652	1136	4246	3124	2041	5608

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table S4: Production regressions by country dataset

	Production					
VARIABLES	All Countries	Orkney	Gabon	Tanzania	Kenya	Madagascar
Payment[1]	-0.581***	0.312***	-1.116***	-0.991***	-0.425***	-0.284***
Age[2]	0.0559	-0.316***	0.119	0.131***	-0.422	0.0912*
Education[2]	0.142***	0.518***	0.167***	0.0877	-0.113	0.162**
Fraction female[2]	0.0706*	-0.318***	0.0328	0.181	0.252	0.117
Fraction farming as primary income[2]	-0.0220	-0.853***	0.0295	-0.122	-2.598*	-0.000799
Fraction farming as secondary income[2]	-0.0836	-0.818***	-0.0262	-0.0935	-2.256*	-0.177
Difference in gender[3]	0.0681*		0.00775	-0.0565	-0.0633	0.0174
Trust in community coordination	-0.0554	0.828***	0.0314	0.0760*	-0.318*	0.0166
Trust that community is honest	-0.0860*	0.789***	-0.0744	0.0439	-0.307**	-0.0969
Trust that community won't take advantage	0.0702	1.103***	0.0627	-0.115**	0.427*	0.0963
Belief that conservation outcome harms wellbeing	-0.0273	0.239***	-0.0104	-0.0521	0.309	-0.138*
Belief that conservation outcome helps wellbeing	-0.106***		-0.173***	0.0262	-0.170	0.0854
Belief that conservation is important for future generations	-0.0407	0.0220***	0.0682	-0.102*		-0.179*
Importance of social disapproval on behavior	0.0418	-1.009***	0.0459	0.0566		0.191**
Importance of penalty on behavior	0.0131	-0.000802	-0.0792	-0.0235		0.00233
Trust in Government[2]	0.0218	0.425***	-0.0980	0.0356	0.0882	0.0375
Trust in National Park Authority[2]	-0.0248	0.544***	0.0685	-0.108	0.419	-0.177*
Played game to win	0.0782	0.388***	0.0957		0.0175	0.256**
Played game to help the group	-0.0531	0.859***	-0.0448	-0.0665		0.209
Played game like I live my real life	-0.0532	0.114***		0.148***	-0.299	0.200
Played game just to have fun	-0.00138		-0.00967	-0.0717**		0.123
Choices depended on those of others	0.0636*	-0.358***	-0.0515	-0.114*	-0.230	0.107**
Considered impacts of choices on later generation	-0.0335	-1.009***	-0.125**	0.164**	0.709**	-0.193**
Considered impacts of choices on other players	-0.0121		0.134**	0.0334	-0.0409	-0.0502
Relationship strength with other players	-0.0995**	-0.241***	-0.122	0.119**	0.256	-0.225***
Constant	0.320***	-0.157***	0.558***	0.494***	0.254**	0.170***
Observations	6,511	514	1,565	1,129	901	2,402
R-squared	0.193	0.276	0.366	0.323	0.468	0.404
AIC	17133	1295	3778	2814	2024	5626

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Supplementary Methods – training protocols for individual games

Protocol 1 – NonCropShare

Appendix A - NonCropShare Game Session Protocol

[first set up the seating, preferably forming a circle, collect player names, write them on the score recording sheeting, set up tablets, put in player names, etc.]

Hello, and thank you for making time to be here this afternoon.

Today we are going to conduct an experiment that is a continuation of the work we started when we spoke to you the other day. Just as before, your participation is voluntary but your participation of the full section is greatly appreciated. The game can't run without all four participants. We are offering a total of $10 for your participation in the survey and in today's experiment, which should take about 90 minutes. In addition, there will be a bonus of $1-3 dollars at the end of today's experiment, depending on your performance in the experiment, which we will explain in a moment. With this in mind, do you consent to continue?

Today we are going to play a game about land use decision making. You'll play in groups of 4, and each player will have an equal share of the land in the game, a total of 9 squares.

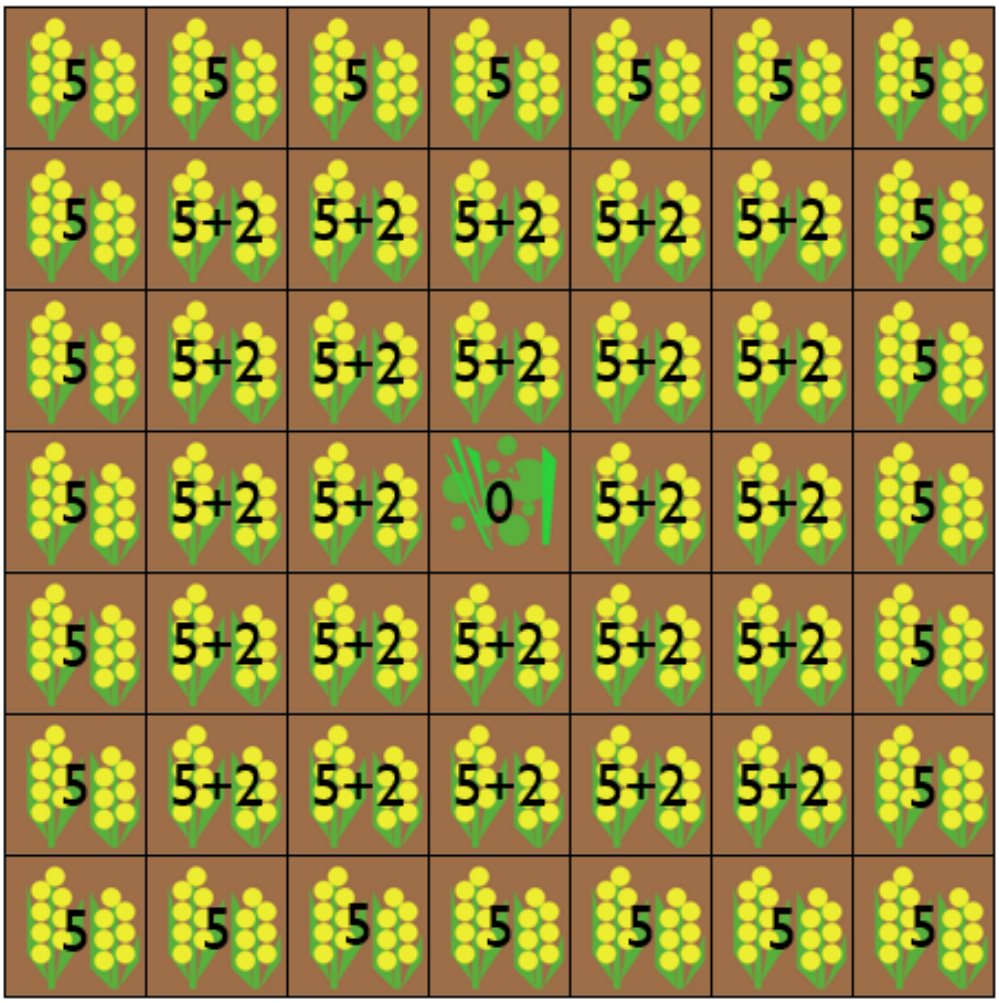
In each turn, in each of those squares, you can do one of 4 things:

1) Plant a crop, without doing anything else.
2) Plant 'non-crop' land – like hedgerows, shrubs, etc.
3) Plant a crop, with light, targeted application of pesticides
4) Plant a crop, with heavier, broad spectrum application of pesticides

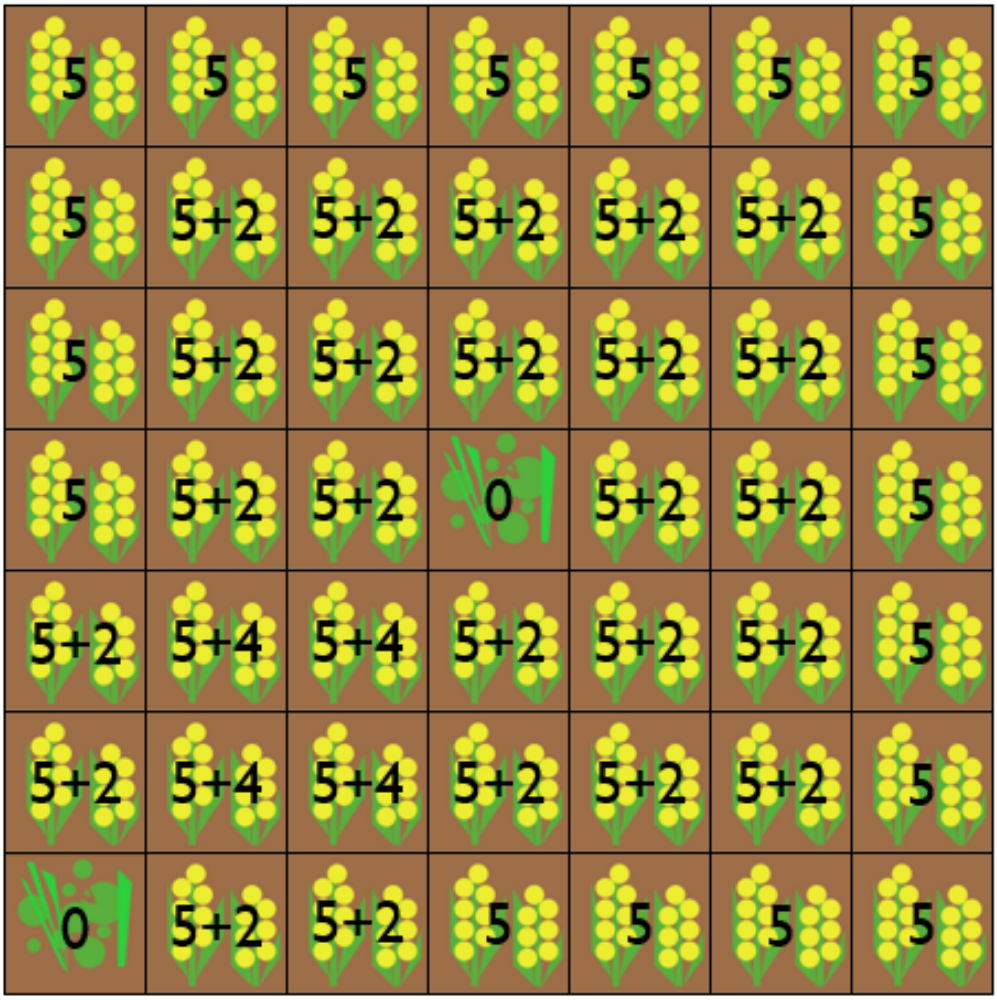
Each of these options has costs, and each will bring different benefits. Let me introduce each of them in turn.

The first choice of planting a crop, without doing anything else, doesn't cost anything, and brings a yield of 5 from that square. However, yield from each square can be as high as 15, and the other 3 choices each can help increase yields in different ways.

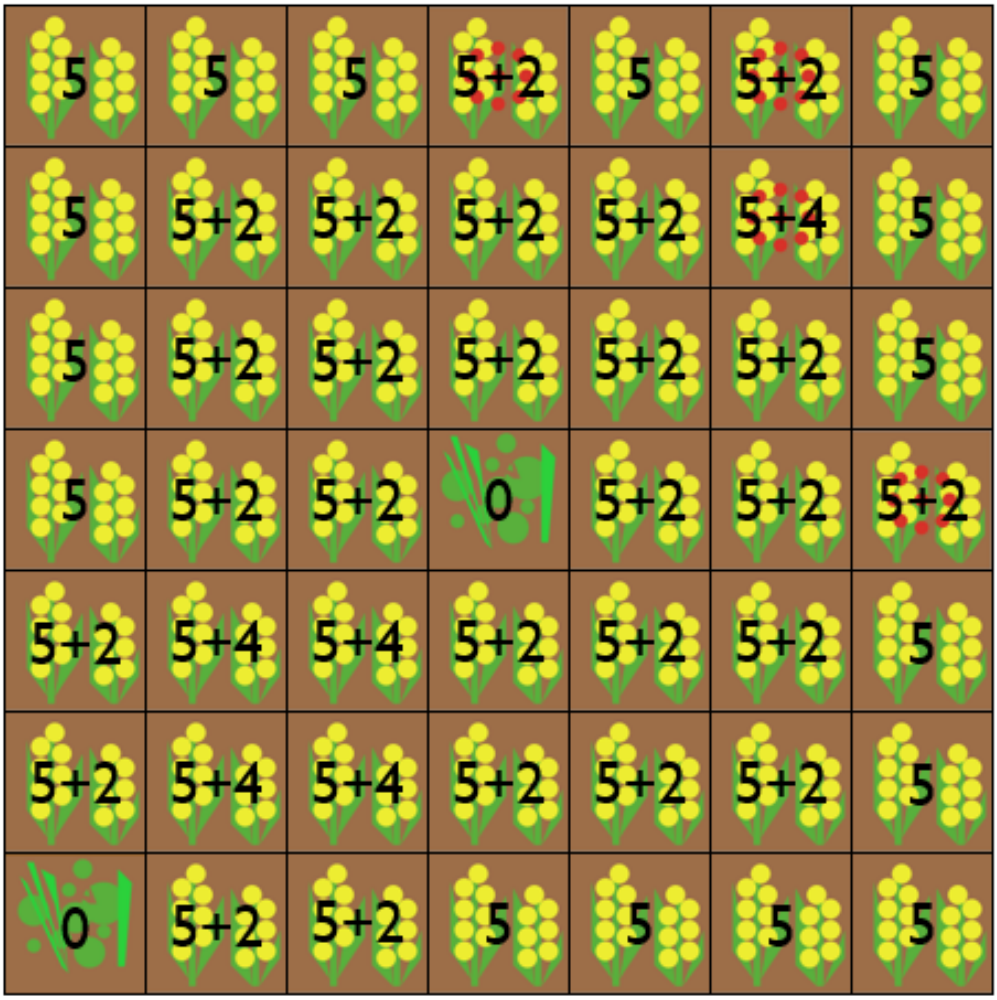
Planting a non-crop square costs nothing, but brings a yield of 0 in that square. However, it brings a bonus of +2 to every square in a radius of 2 squares around it, in all directions. Thus, if there were a square next to a non-crop square that had a yield of 5 originally, the non-crop square would give a bonus of +2, making the yield 7 in that square. This bonus continues for 2 squares in any direction from the non-crop square across the landscape, even into the land of your neighbors.



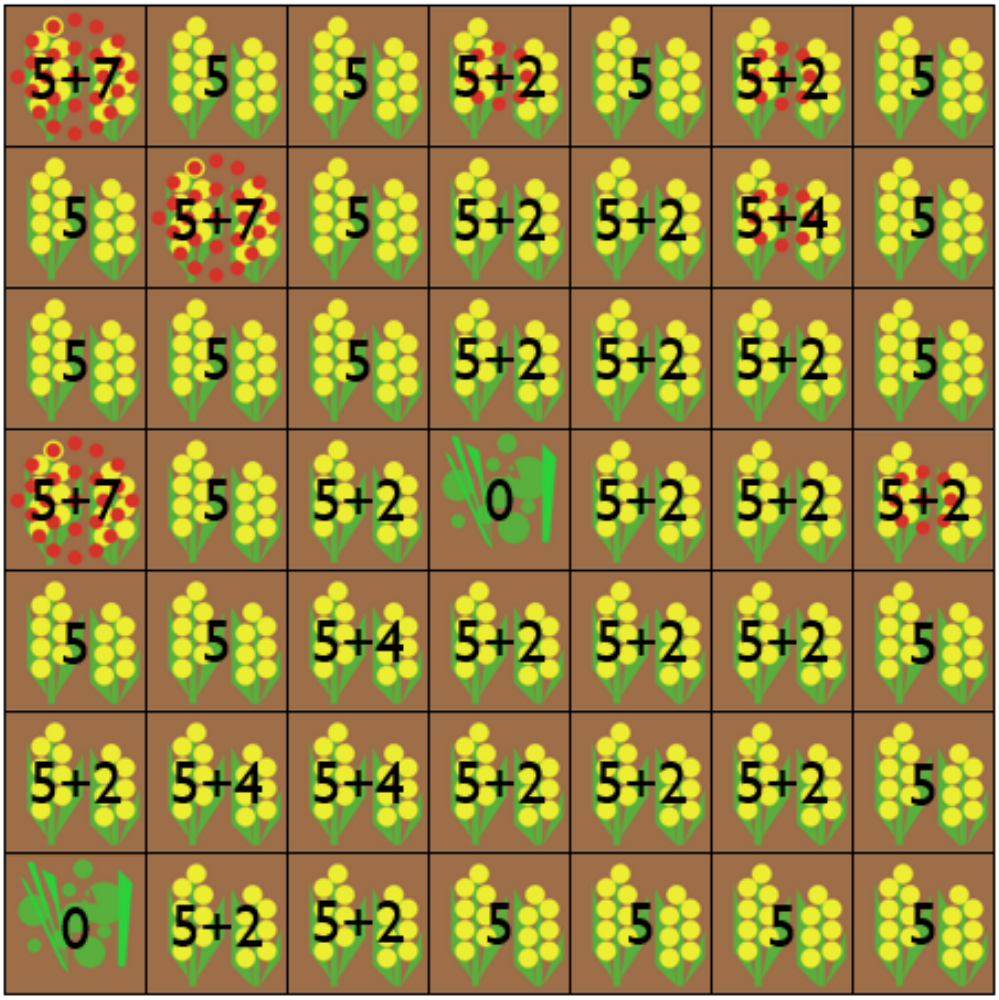
Now, the bonuses from non-crop habitat are additive. By that I mean that if a particular square falls within the 2-square radius from 1 non-crop square, it gets a bonus of +2, but if it falls within the 2-square radius of 2 different non-crop squares, it gets a bonus of +4, and so on.



The third choice that can be made in a square is to plant, with a targeted pesticide spray. This costs 1, but brings a benefit of +2 to the square that is sprayed, on top of any other bonus the square receives, up to the maximum of 15. So, if a cell was already receiving a bonus of +2 from a nearby non-crop square, it would now receive a bonus of +4, for a total of 9. However, it is important to remember that it costs 1 to do the spraying, so the net benefit for the square is 8.



The last choice that can be made for the square is a heavier, broad spectrum pesticide spraying. This costs 2, but brings a benefit of +7 to the square in which it is applied. There is a catch, however – the broad spectrum spraying cancels out any bonus from non-crop squares in the square that is sprayed, and in a radius of 1 square around it in all directions – even into neighboring farms.



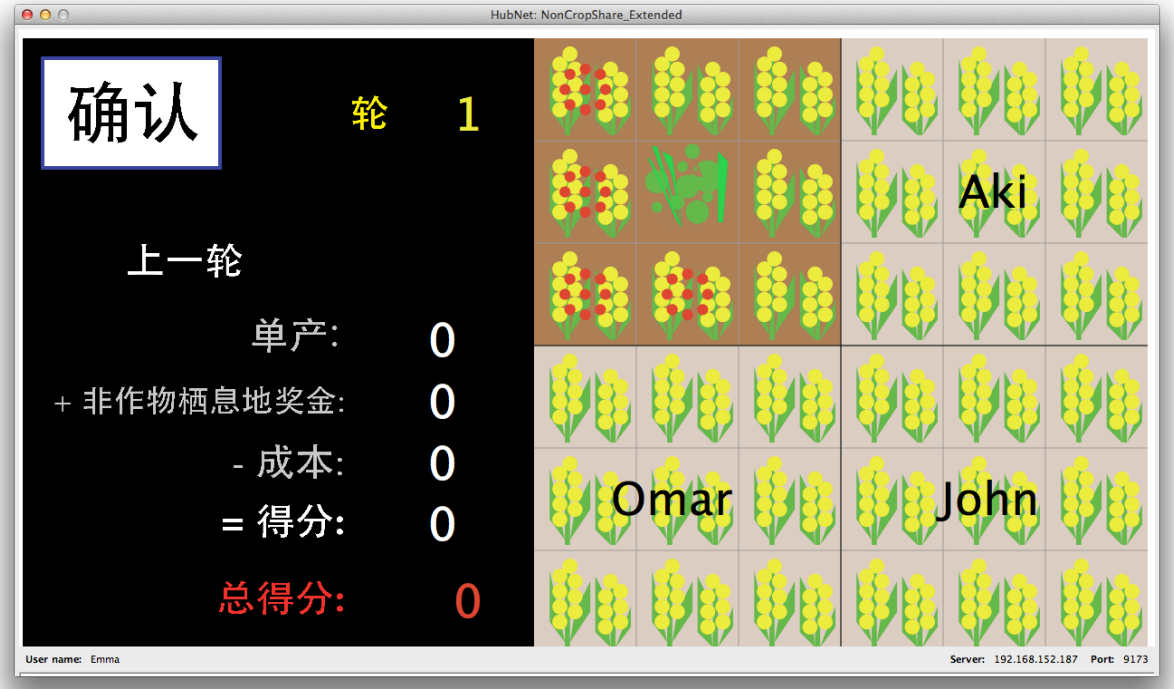
So just to review – planting a crop and not doing anything else (the default, brown square when you play) gives a benefit of 5. Different choices can make that yield higher, up to a maximum of 15. Non-crop squares give a bonus of +2 to the squares within a radius of 2 squares around them, and can add up. Targeted spraying gives a benefit of +2, but costs 1 to use. Broad spectrum spraying gives a benefit of +7, at a cost of 2, and blocks benefits from non-crop squares in a radius of 1.

In some of games following, you may be offered a subsidy. For each square of non-crop habitat in your land, you'll receive a subsidy between +1 and +10. In other word, instead of earning a yield of 0 in the non-crop land square, you will be earning a benefit at the subsidy value. The bonus that non-crop habitat square brings to its surrounding land remains the same.

You don't need to memorize this – you can use this sheet as a reference while you play the game *[hand out sheet only now]*.

Let's look now at the game screen and see how this all fits together.

This is a screen shot from the first turn for Player 4, in the upper left quadrant. The names of the other three players are shown over their quadrants, which are lighter in color, and can't be modified by Player 4.



Player 4's total score appears at the bottom of the screen in red, and right above it, the points that you earned during the last turn. This screen is from the first turn, so both of those numbers are still 0.

You can cycle through the choices for each square by clicking on the square itself, and we'll practice that in a minute. When you've finished your turn, you can click 'Confirm' and wait for the other players to finish. Once you have confirmed, you can't go back. Once everyone has confirmed, the round is over.

At the end of each turn, you'll be able to see what happened across the landscape, and what the yields were for each square. You'll also be able to see what each player earned during their turn. You'll be able to see this in the practice session, which we'll do in a moment.

Now, during the game you should feel free to talk to the other players about anything you like – the game, your moves, your life – anything you like. However, please do not show your screen to the other players. Keep that private.

One other note – you can change any of the 9 squares to any of the four land use choices you like, in each turn. At the beginning of each turn, land that was planted as non-crop habitat in the last turn, will default as non-crop habitat in the new turn. All other land will default as unsprayed crops; if you wish to spray, it needs to be redone each turn.

[Note, we don't show a sample here as we don't wish to suggest any strategies]

PRACTICE [GP]

We'll just play a few short rounds now so that you get comfortable with the mechanics of the game. I'll walk you through the first turn so you can see how it goes, and you can ask me questions during your turn or between rounds. I encourage you to use the practice session as an opportunity to explore different options and see what happens. Feel free to discuss with others, but please do keep your screen to yourself. The scores from the practice section will not be used to calculate your cash bonus.

[walk through a 3-round practice game]

Got it? *[answer any follow-up questions]*

Ok, let's move on to the experiment

We are going to play 4 different games, each one of which will differ a little bit, and might change a bit from what we've done in the practice.

As you make your decisions, we'd like you to try to earn points, and that's where the bonus comes in. At the end of the session, we'll record the score for each player on the paper and pick one of the 4 games that you played and look at the scores. Each of you will receive a bonus of 2000 Riel for every 100 points you earn in the game. We aren't going to tell you in advance which game we will choose to be the one we count.

Ok, let's begin.

[Each game group will play 4 treatments – 1, 2, 3 and 4 – but the order will be randomized. Thus, each treatment needs to be introduced in a way that does not depend on other treatments having been played first]

Treatment 1 [G1]

[No subsidy; moves of other players shown after everyone has confirmed]

In this game, the settings are just like they were in the practice. Non-crop habitat has a yield of zero. You are free to discuss the game with the other players, but keep your screen to yourself. You'll be able to see what's going on at the end of each round. This game will last at least 8 rounds.

Treatment 2 [G2]

[No subsidy; moves of other players shown as soon as they confirm]

In this game, the settings are similar to what they were in the practice. Non-crop habitat has a yield of zero. You are free to discuss the game with the other players, but keep your screen to

yourself. You'll be able to see the choices that other players have made as soon as they confirm them. This game will last at least 8 rounds.

Treatment 3 [G3]

[Subsidy of randomized value 1-10; moves of other players shown after everyone has confirmed]

In this game, you are being offered a subsidy. For each square of non-crop habitat in your land, instead of earning a yield of zero, you'll receive a subsidy of (RANDOM VARIABLE 1 -10). You are free to discuss the game with the other players, but keep your screen to yourself. You'll be able to see what's going on at the end of each round. This game will last at least 8 rounds.

Treatment 4 [G4]

[Subsidy of randomized value 1-10, moves of other players shown as soon as they confirm]

In this game, you are being offered a subsidy. For each square of non-crop habitat in your land, instead of earning a yield of zero, you'll receive a subsidy of (RANDOM VARIABLE 1 -10). You are free to discuss the game with the other players, but keep your screen to yourself. You'll be able to see the choices that other players have made as soon as they confirm them. This game will last at least 8 rounds.

[before we do the bonus, I'd like to ask you one question: complete SOCIAL NETWORK MATRIX]

[calculate bonus and hand out cash]

Supplementary Methods – training protocols for individual games

Protocol 2 – GooseBump

Appendix 4. GAME PROTOCOL (TRANSLATED FROM FRENCH)

[first set up the seating, preferably forming a circle, read consent form, record player names write their identifier codes on the score recording sheet, set up tablets, and put in player identifier]

Hello, and thank you for being here today.

Today we are going to play a game about land use decision making. You'll play in groups of four, and each player will have an equal share of the land in the game, a total of 9 squares. Your participation is voluntary but we would really appreciate if you stay for the full session as the game can't run without all four participants.

We are offering some gift items to thank you for your participation in today's experiment which should take about 90-120 minutes. In addition, the content of the gift items will depend on your management decisions in the game, which we will explain in a moment.

Do you consent to continue? If at any time you find that this is something that you do not wish to participate in for any reason, you are of course free to leave whether we have started the game or not.

In each of those squares, you can do one of four things:

1 2 3 4

1. Farm the square for your private business

2. Farm the square for your private business and use non-lethal deterrent methods to scare elephants away

3. Farm the square for your private business and kill elephants found marauding on your farmlands

4. Lease your farm plot for elephant conservation (zones dedicated to elephant conservation or" elephant habitat").

Each of the you will take responsibility for land use decisions on a 3x3 grid-cell section (farm) of a 6 x 6 grid-cell agricultural landscape as shown in the following figure.

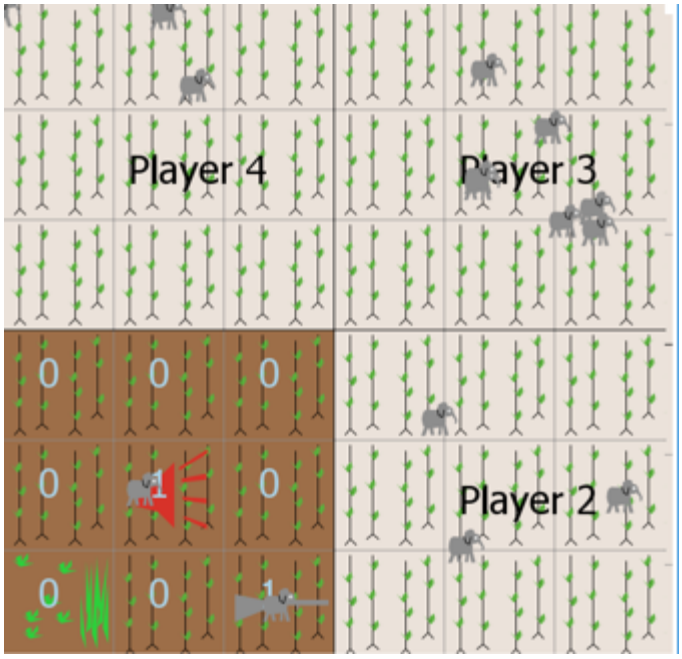


Figure: Bottom left corner of the landscape is active player

Each of these four options has different benefits and costs. Let me introduce each of them in turn.

Farming the square (options 1, 2 and 3) brings a yield of +4. Providing elephant habitats brings no yield. Non-lethal scaring brings a cost of -1 while lethal scaring costs -2. These costs reflect both the materials, efforts, and also the risk associated with the illegal nature of these activities.

We are going to play a few rounds per game session – rounds can be analogous to years. In each round, there are a certain number of elephants in the landscape. When elephants land on farmed cells (options 1, 2, 3), they cause damages and decrease your farm yield. This is described in the second line in the above figure ("elephant damage"), the amount of elephant damage on each farmed square depends on the number of elephants in that square.

You don't need to memorize this – you can use this sheet as a reference while you play the game [hand out sheet now].

At the start of each round, the default land use options on all 36 grid cells are farmlands (option 1). Elephants are randomly distributed across the landscape with an equal chance. If you decide to scare elephants on a given cell, then some will leave the cell and reorient in other cells based on the attractiveness of the three options. Elephant habitats (the forth option) is the most attractive option, that is elephants are much more likely to be drawn to an elephant square (option 1) than on your farmlands (options 1, 2, 3). These habitats contain some palatable crops and can therefore reduce agricultural damages across the landscape by drawing elephants from other places. However, elephant habitats may slightly increase the amount of elephant damage in farmlands that immediately surround them by bringing more elephants close to them in the landscape. However, rest assured that the neighbourhood effect of the habitat is small enough and may only marginally significantly affect the yield of adjacent farmlands. Put simply, elephant habitats may make things significantly better for some farms by keeping elephants at bay.

The number of elephants at the start of each round equals 18 and decreases with lethal scaring efforts (the more you shoot, the less elephants there are left). Please note that non-lethal and lethal scaring techniques are not 100 % effective, just like in real life, so you may try to deter elephants, but they

might still raid your farm, likewise, you may attempt to kill them, but some will survive. We have set the games so you will success at killing an elephant 8 out of 10 times, using deterrent techniques however only works 3 out of 10 attempts.

In some of the game sessions that we are going to play today, a subsidy and/or bonus is given for every elephant habitat in the landscape. In another game session, the subsidy will offset the cost of the non-lethal deterrent method, i.e. the cost of the non-lethal deterrent option (option 2) becomes zero.

You can cycle through the choices for each square by clicking on the square itself, and we'll practice that in a minute. When you've decided, you can click 'Confirm' and wait for the other players to confirm. Once everyone has confirmed, the round is over and the "score" (i.e., the total points earned) is calculated for each cell based on your choices in and around the cell, and the process is repeated in the next round.

You will be permitted a period of discussion (one minute) before you make your individual decisions at the beginning of each round. You will make decisions simultaneously on your land squares and will see at the end of each round what has happened across the whole landscape, what yields are achieved in each square, and what scores are earned by each player. Although you can observe individual players' decisions, you won't be able to match decisions to the individual.
One other note – you can change any of the 9 squares to any of the two land use choices you like, in each round.

So just to review, farming brings a yield of +4. Scaring techniques bring a cost of -1 or -2. Elephant habitats bring no yield but they may decrease elephant damage across the landscape by keeping elephants away from farmlands.

Let's look now at the game screen and see how this all fits together.

This is a screen shot from the first turn for Player 1, in the bottom left quadrant. The identifiers of the other three players are shown over their quadrants, which are lighter in colour, and can't be modified by Player 1. The white coloured number on each square is the number of elephants.

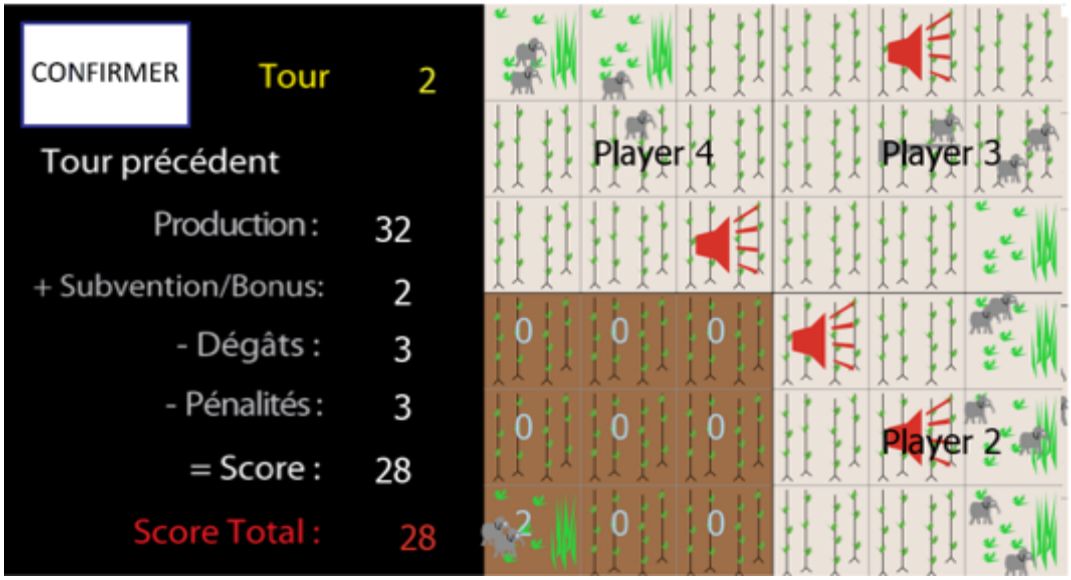


Figure 2: Bottom left corner of the landscape is active player, actions taken by other players in previous turn are visible.

[Note, we don't show a sample here as we don't wish to suggest any strategies]

After I have finished the explanation we will play a short practice game to help you to understand the process.

Practice

We'll just play a few short rounds now so that you get comfortable with the rules of the game. I'll walk you through the first turn so you can see how it goes, and you can ask me questions during your turn or between rounds. I encourage you to use the practice session as an opportunity to explore different options and see what happens. Feel free to discuss with others, but please do keep your screen to yourself.

[walk through a 4-round practice game]

Got it? *[answer any follow-up questions]*

Ok, let's move on to the experiment.

We are going to play four different games, each one of which will differ a little bit, and might change a bit from what we've done in the practice.

Now, as you make your decisions, we'd like you to maximize your utility (or "do well") by trying to earn points, and that's where the gift items come in. At the end of the session, we'll record the score for each player on the paper and pick one of the four games that you played randomly and look at the highest score. The gift items (content and number) that you will each receive equally will be based on that highest score.

Please remember that there are different ways to earn points, either by playing individually or as a team working together. Most importantly, we want your decisions to reflect what you would do in real life.

Ok, let's begin.

[Each game group will play 4 treatments; the order are randomised across groups. Thus, the four treatments can be introduced in a way that does not depend on other treatments having been played first.

G1: Baseline treatment:

In this game, the settings are just like they were in the practice. There is no subsidy from providing elephant habitats. You are allowed to discuss the game with the other players at the beginning of each round, but please keep your screen to yourself. This game will last at least 6 rounds.

G2: Flat Rate Subsidy: A subsidy from *X* points (drawn randomly at the beginning of the game and held constant during the game)

In this game, you are being offered a subsidy for each square of land that you lease as elephant habitats. You'll receive a subsidy which will add to your total score. You are free to discuss the game with other players at the beginning of each round, but keep your screen to yourself. This game will last at least 6 rounds.

G3: Support for deterrents

In this game, the settings are just like they were in the practice. There is no subsidy from leasing plots for elephants. However, you will get some support for deterring elephants from your farmlands, the support will offset the cost of non-lethal deterrent methods. You are allowed to discuss the game with the other players at the beginning of each round, but please keep your screen to yourself. This game will last at least 6 rounds.

G4: Agglomeration payment

In this game, you are being offered a subsidy for each square of elephant habitat in your land. You'll receive a subsidy worth X points which will add to your total score. In addition, you will also get an additional bonus of 1 point for every elephant square that has at least one elephant square next to it. You are free to discuss the game with other players at the beginning of each round, but keep your screen to yourself. This game will last at least 6 rounds.

Supplementary Methods – training protocols for individual games

Protocol 3 - SharedSpace

Game protocol – Administered in Malagasy and in Swahili

[*first set up the seating, preferably forming a circle, read consent form, record participant names write their identifier codes on the score recording sheet, set up tablets, and put in participant identifier*]

Hello, and thank you for being here today.

Today we are going to ask you to make land use decisions using a decision tool on tablet computers. You'll use such tool in groups of four, and each participant will have an equal share of the land in the game, a total of 9 squares. Your participation is voluntary, but we would really appreciate if you stay until the end as the sessions can't run without all four participants.

We are offering some gift items to thank you for your participation in today's experiment which should take about 60-90 minutes. In addition, the content of the gift items will depend on your management decisions in the decision tool, which we will explain in a moment. We'd really to encourage you to make decision as in real life and to make full use of this tool to express your land management preferences and views.

Do you consent to continue? If at any time you find that this is something that you do not wish to participate in for any reason, you are of course free to leave whether we have started the experiment or not.

In each of those squares, you can do one of two things:

1 2

1. Farm the square for your private business

2. Leave the forest/fallow land as is

Each of you will take responsibility for land use decisions on a 3 x 3 grid-cell section (farm) of a 6 x 6 grid-cell agricultural landscape as shown in the following figure.

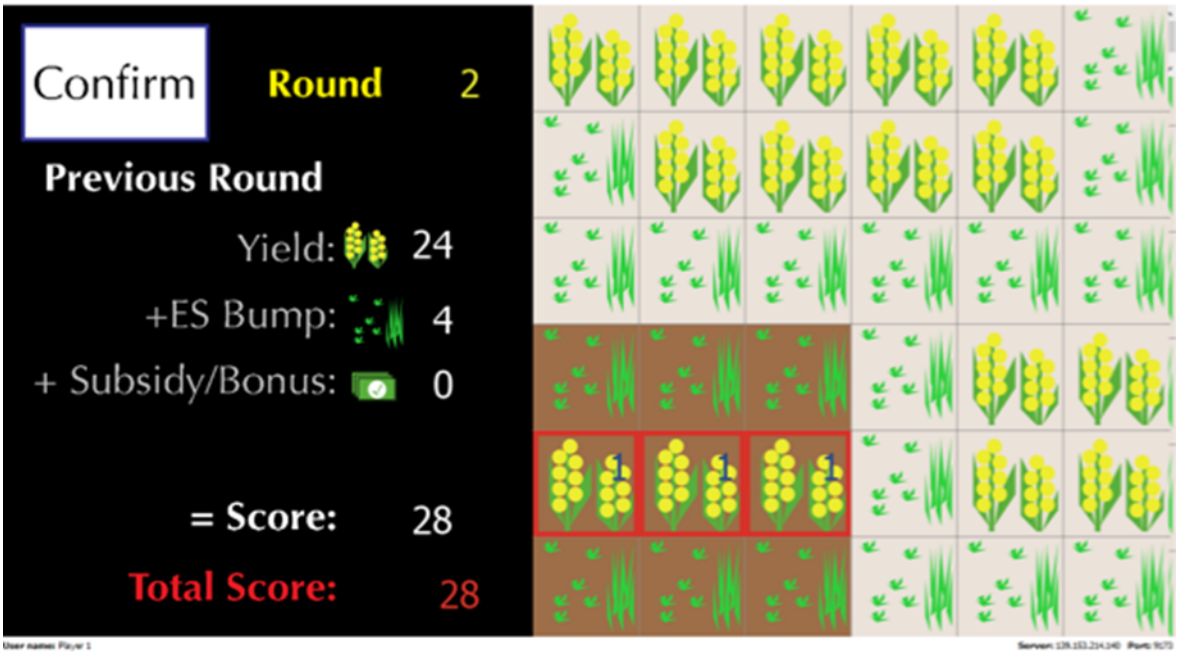


Figure: Bottom left corner of the landscape is active participant

As you can see in your handout, each of these two options has different benefits and costs. Let me introduce each of them in turn.

You don't need to memorize this – you can use the handout as a reference while you play the game [*hand in the handout now*].

At the start of each round, the default land use options on all 36 grid cells are forest/fallow lands (option 1). If you decide to farm on a given cell, then you will get a yield of +12, but if you choose to farm the same cell in two consecutive rounds, the yield goes down to +10 on the third and onward rounds. This is very similar to soil fertility in traditional swidden agricultural systems [*use local language*], the first two years, the yield is good but then it declines the following years.

To get the fertility of a cell back to +12, you must not to cultivate the cell for two consecutive rounds at least. Leaving the forest/fallow land as is brings no yield. However, the neighbouring farmed cells will gain more yields of +1 from the ecosystem services from the forest/fallow land. This to illustrate the benefits that forests provide to your farmlands, such as protection against soil erosion and water regulation.

In some of the game sessions that we are going to play today, a subsidy (of different amounts) and/or bonus is given for every forest/fallow land in the landscape. You can think of it as a reward that the richer countries offer you for protecting these forests. You can also interpret it as a compensation for the fact that you cannot cultivate and harvest crops.

You can cycle through the choices for each square by clicking on the square itself, and we'll practice that in a minute. When you've decided, you can click 'Confirm' and wait for the other participants to confirm. Once everyone has confirmed, the round is over and the "score" (i.e., the total points earned) is calculated for each cell based on your choices in and around the cell, and the process is repeated in the next round.

You will be permitted a period of discussion (2-3 minute) before you make your individual decisions at the beginning of each round. You will make decisions simultaneously on your land squares and will see at the end of each round what has happened across the whole landscape, and what yields are achieved in each square. Although you can observe other participants' decisions on your own screen, you won't be able to match these decisions to the individual (i.e., you won't know which score is whose participant).

One other note – you can change any of the 9 squares to any of the two land use choices you like, in each round.

So just to review, farming brings a yield of +12. Farming for two consecutive rounds reduces yield to +10, and to get the yield back up to +12, the cells will should not be farmed for two consecutive rounds. Leaving forest/fallow lands bring no yield but they increase yield in the adjacent cells by +1.

After I have finished the explanation we will play a short practice game to help you to understand the process.

PRACTICE [GP]

We'll just play a few short rounds now so that you get comfortable with the rules of the game. I'll walk you through the first turn so you can see how it goes, and you can ask me questions during your turn or between rounds. I encourage you to use the practice session as an opportunity to explore different options and see what happens. Feel free to discuss with others, but please do keep your screen to yourself.

[walk through a 3-round practice game]

Got it? *[answer any follow-up questions]*

Ok, let's move on to the experiment.

We are going to play four different sessions, each one of which will differ a little bit, and might change a bit from what we've done in the practice.

Now, as you make your decisions, we'd like you to maximize your utility (or "do well") by trying to earn points, and that's where the gift items come in. At the end of the session, we'll record the score for each participant on the paper and pick one of the four games that you played randomly and look at the total score. The gift items that you will each receive equally will be based on that total score.

Most importantly, we want your decisions to reflect what you would do in real life.

Ok, let's begin.

[Each game group will play four treatments; the order is randomised across groups. Thus, the four treatments can be introduced in a way that does not depend on other treatments having been played first. Participants are free to discuss with others, but please do keep their screens to themselves)

I) Treatment T1: Individual property rights, no subsidy (6 rounds)

Each participant is endowed nine fallow forest patches (3x3 grid-cell section of the 6x6 grid-cell agricultural landscape) on which they can make land use decisions (figure 1). There are two main land use decisions available to each participant, farm or fallow. So, in this session, you can be confident that your household legally own a piece of forest plot, with a legal title. You fully own such plot; you don't share it with others, and you are totally free to decide what to do on it.

No subsidy is offered for conserving fallow lands.

II) Treatment T2: Individual property rights with subsidy (6 rounds)

Each participant is endowed nine fallow forest patches (3x3 grid-cell section of the 6x6 grid-cell agricultural landscape) on which they can make land use decisions. There are two main land use decisions available to each participant, farm or fallow. The same procedure in T1 applies here. That is, you can be confident that your household legally own a piece of forest plot, with a legal title. You fully own such plot; you don't share it with others, and you are totally free to decide what to do on it.

Now, a randomly assigned flat subsidy is offered to fallow lands. You can think of it as a reward that the richer countries offer you for protecting these forests. You can also interpret it as a compensation for the fact that you cannot cultivate and harvest crops.

III) Treatment T3: Common access (shared space) without subsidy (6 rounds)

All four participants can access any cells in the agricultural landscape, this mimics situation where you collectively own and manage forested lands. A cell that is farmed by one participant can no longer be farmed by another participant (cells are allocated on a first come first serve basis during the round). You can choose to farm the same cells in subsequent rounds or move to other cells (in which case the cell becomes available to other players). However, each of you can farm a maximum of 9 cells. So in this session, your community legally owns a communal forestland, and each community member can access an equal share of plots within that forestland. These plots do not all have to be in the same location, you are free to discuss among yourselves how you are going to go about it.

No subsidy if offered for fallow forestlands.

IV) Treatment T4: Common access (shared space) with subsidy (6 rounds)

All four participants can access any cells in the agricultural landscape, this mimics situation where you collectively own and manage forested lands. A cell that is farmed by one participant can no longer be farmed by another participant (cells are allocated on a first come first serve basis during the round). You can choose to farm the same cells in subsequent rounds or move to other cells (in which case the cell becomes available to other players). However, each of you can farm a maximum of 9 cells. So in this session, your community legally owns a communal forestland, and each community member can access an equal share of plots within that forestland. These plots do not all have to be in the same location, you are free to discuss among yourselves how you are going to go about it.

Now, a randomly assigned flat subsidy is offered to fallow lands in the landscape and the total amount will be shared equally by the four of you. You can think of it as a reward that the richer countries offer you for protecting these forests. You can also interpret it as a compensation for the fact that you cannot cultivate and harvest crops. So here whether you farm less or more, everyone will get the same share as the forestland is owned collectively.

	1. FOREST LANDS / FALLOW LANDS 	2. FARMLANDS 	
		MORE FERTILE	LESS FERTILE
YIELD 	0	12	10
ECOSYSTEM SERVICES 	+1 FOR NEIGHBOURING FARMLANDS (perimeter of 2 squares)	-	-
SUBSIDIES 	VARIES	0	0

I. **SCORE = YIELD + ECOSYSTEM SERVICES + SUBSIDIES**