**Describing FarmSquares game**

**[Follow this script exactly. Do not add additional context. Respond to questions from participants only be restating information provided in this script]**

Before we begin, we will start with a round of introductions. Please introduce yourself with your name and your village.

**[Allow participants to introduce themselves for a few minutes before beginning the game.]**

We’d like to spend time now learning to play a game. We’ll spend about an hour or so learning it today, and come back tomorrow to play it again for about another hour as part of an experiment.

In this game, you’ll do farming in a simple, imaginary world. It will have some things in common with your own farm and farm community, but not everything. What we hope you’ll do is bring your own experiences - as farmers and as a community - to bear on the simpler farming world we’ve created.

The game includes a number of different choices you can make, and its up to you what you do and how you play. There isn’t a right way to do things. Just like in your own farming lives - where sometimes you work alone and sometimes you work together, sometimes you stick with one thing and sometimes you experiment with new ideas - you’ll try to see what works best.

Today is just for practice, for us to figure out the game and the rules. Tomorrow, in each of the games we play, you’ll earn shillings based on the points awarded in the game. Right now, we’re going to step through the parts of the game, one thing at a time, so that you can start to think about how to earn points.

**[Practice game is always launched using Session 999]**

**[For the player name in NetLogo - enter the HHID given in the ODK survey]**

**[Draw all players’ attention to the game board]**

1. What we’ll do now is learn by playing. This will work the best for all of us if we can all try to be at the same step at the same time. To start, look at the green squares on the board.
2. One thing to notice is that a couple of squares have acacia trees in them. All of the squares have a little white number in the corner - most are 2, but the ones around the acacia trees are 3s.
3. These numbers are a measure of soil health, which can go up and down depending on how you play the game. We’ll come back to these soon, but first we have to learn how we do farming in this game.
4. Any of you can farm on any of the squares in the landscape.
5. In this game, we are going to make decisions along an agricultural year (and then another, and another) by choosing things to do in these squares
6. We choose to do things on the landscape with two steps - ‘activating’ an action from the choices here (in the top left bar), and then tapping on a square to apply it. Try this yourself - tap on one of the actions in the top bar, and see the square activating it.
7. The color of this square is your color
8. Now tap on a square in the field. This changes to your action
9. Note that if someone else has chosen to put something in a square, you can’t use it (because they are)
10. You can undo your choice by tapping it again
11. You can also change it by tapping on something else and tapping over it
12. Nothing is final until you hit the big ‘checkmark’. You might think of this process as ‘planning’ - you’re all making decisions about what you will do over the coming season, but time doesn’t move forward until you click the big checkmark.
13. You’ll notice that you can only have actions on a few squares, before you can’t make any more changes.
14. Each of those options requires points, and you have only a limited number of points to spend in each phase - kind of like how there are only a limited number of hours in a day, or days in a week in which we can do things, or a limited amount of money to pay for help. In each phase, you’ll have X more points to spend to do the things that you want to do.
15. The points we have available to spend are shown in the green number at the bottom of our screen. The points we are currently using with the choices we’ve made on the landscape are the number in red at the top of the screen. We can’t use more points than we have in green, and as the red number approaches the green number, our points run out. Any points you don’t use in a turn will carry over to the next turn - we’ll see how this works in a few moments.
16. We can change what we are doing on the landscape, in case we decide we want to use our points differently. Try this by unselecting an action on the landscape, and choosing differently. Again, nothing is final until we hit the big checkmark.
17. Let’s learn a bit about these landscape choices first before we move on to the other parts of the game
18. There are three different things you can do right now - low intensity land prep, high intensity land prep, and grazing.
19. The two types of land prep lead toward two approaches to cropping - low and high intensity.
20. To get a crop yield for a square in an agricultural year, you need to do three things - prep the land, grow the crop, and harvest it.
21. Our ‘year’ is three turns long, and you’ll see different options at different times of the year. In the first turn of the year, you’ll see options for land prep.
22. Let’s try this now - add land prep to a few squares, and click the big checkmark
23. When everyone has clicked the checkmark, our game moves to the next phase of the year. You’ll see you have more points to spend - just like you might have new hours to use at the start of a new day, or new money to spend as it comes into your household from the things that you do. Any points you *didn’t* spend in the last turn are carried over, so in this way points are a little more like money and a little less like time.

***[GAME IS NOW IN TURN 2 of YEAR 1]***

1. Our options have changed now - to do low or high intensity ‘growth’. What should we do?
2. Low intensity growth costs less of your effort, and leads to lower yield. High intensity growth costs more effort, and leads to higher yield. There are several other things to consider, but let’s talk through the yield part first
3. To earn a high yield for the square, you need to do three high intensity actions in the year - high intensity land prep, high intensity growing, and high intensity harvest.
4. If you have done land prep, growing, and harvest for a year, but they aren’t all high intensity, then the yield will be the low intensity yield
5. If you miss any of the steps - so no land prep, or no growing, or no harvest (whether high or low intensity) - the yield is 0
6. One more thing to mention - we can only get high yields if the soil is healthy. That’s what that little white number in each square tells us about. The number tells us how many seasons we can expect to get high yields before the soil is ‘depleted’ and needs to rest. Every season of high intensity cropping will decrease that number by one - if the number is 0, you can only get low yields. We’ll talk through what activities will increase that number in just a moment.
7. Summarizing up to now - effort to prep land, grow crops, and harvest them in a square will give a yield at the end of the year. If all of those actions are high intensity, the yield will be high intensity. If they aren’t, the yield will be low intensity. If we miss any, the yield will be 0. And if the soil is depleted (the white number is 0), you can only get low yields even with high intensity farming.
8. There is one other land use option available to you right now - grazing animals. Grazing is a bit simpler - in every turn that you use a square to graze animals, you’ll get a small yield. We might think of this as selling animals or animal products, perhaps. The yield isn’t large, and we can likely earn more by focusing on crop growing, but this simpler option is available to us.
9. As a bonus - both i) low intensity cropping and ii) grazing will both improve soil health, adding 1 to the soil health measure in the square that you do them in, after the end of the cropping season. We’ll make sure to take note of this after the harvest.
10. Let’s do a few things to move through the first season - let’s grow the crops in squares we’ve prepped, and if we have any effort left over, let’s graze animals in a few other squares, before we hit the big ‘checkmark’

***[GAME IS NOW IN TURN 3 of YEAR 1]***

1. When we start the new turn, we can look at our points and see something different. We’ll have the points we didn’t spend last turn, plus our new allocation of X points, plus more points for the grazing that we did. Every square that we grazed animals on gave us points to use. These points went to whoever grazed animals in that square.
2. We haven’t earned any points from cropping yet - those yields will come when we’ve completed the agricultural season.
3. Now we are in turn 3 of the year, where our harvest begins. Just as before, let’s harvest in the squares that have been growing, and click the big checkmark when we’ve used our points in the way we want to for this turn.

***[GAME IS NOW IN TURN 1 of YEAR 2]***

1. Now we’re into the next year - we’ve earned our yields for each square, and are ready to go for the next season. While we are in this first phase of the year, I’d like to highlight a couple of things.
2. **First**, squares where we did high intensity cropping have lower soil health than before. Squares where we did low intensity farming or grazing might have higher soil health - it can be as high as 3. There is one other way that soil health can be increased - by being close to one of the acacia trees. The acacia trees will raise soil health by 1, up to the maximum of 3, every year that they are there. You might decide not to leave the trees there - maybe that land is more valuable to you as crops or grazing land - but if you do decide to use those squares for something else (notice you can tap to add a land use to those squares just like any other), the trees will be gone and won’t grow back
3. **Second**, some of you might have noticed that when you do the same thing many times (on different squares) in a turn, the number of points it costs gets lower. This captures ‘the more i focus on one thing, the more efficiently i can do it.’ This means that when one person focuses only on one task, they might be able to do more than if they split themselves across two different tasks. Try it now - see what happens when you do low-intensity land prep across as many squares as you can.
4. **Third**, you might also have noticed that the yields from cropping went to whoever harvested the crops. Even if other people prepped the land or grew the crops, the points all went to the person who harvested them.

*[Elicit ideas about ways to address - specializing in certain cropping roles, sharing harvest role, or sharing resources, etc.]*

1. In our game, one of the ways we can share the costs and benefits of farming is by giving points to other players. If you click on the button at the lower left that has money and a blue arrow, you’ll open up a black window in the middle of your farm landscape.
2. In this window, there are squares of different colors, one for each of the players in the game, where the color of the square is the same color that shows when they make actions in the landscape.
3. If you tap on one of the squares, other than your own, you’ll see a white square around it, meaning that this player is currently selected. You can’t select yourself - try and see.
4. When a player is selected, you can use the ‘+’ and ‘-’ buttons to decide on a number of points to give them. Once you have selected a player and an amount of points, you can click on the green checkmark to give those points to them. When you do, the points will go immediately - they don’t have to wait for us to move to the next phase. That means that they can use those points right away, in the same turn.If you change your mind and decide not to give points away, you can click on the red ‘X’to cancel before the transferred points are used.
5. **Last** - there is a second row of options for your farm, underneath the top row of choices for your land. These are choices you might make for your farm, that don’t lead to changes in the landscape - at least not directly. At the moment you see two options.
6. The first of these is to take a loan. Taking a loan makes more points available to you, in the next phase. It also incurs interest - so you’ll have to pay back more than you took out. Once you have a loan out, you’ll see an additional option in this row to pay funds back. You can select how much of each of these options you do by clicking on the small + and - signs.
7. The second of these options is to buy what we’re simply going to call a ‘farming machine’. It’s a bit expensive, but it opens up a path to high intensity agriculture for the owner that is much less effort, and it might pay off. It also opens up the option for some limited use by other players in the game, in case that turns out to be beneficial.
8. Along the game, different choices that you make could lead different options to be available. If there are ever more options available than can be shown in one row, you can use the up and down arrows to scroll among the options. You’ll know if there are options available that you aren’t currently seeing, because the ‘down’ or ‘up’ arrows will be blue, instead of gray.
9. Ok, those are all of the things we can do in the farm landscape. I’ll summarize them now, before we talk about how we’ll play the game in our experiment. What we’ve learned so far is that:
   1. You can select land use options from the top row at the left, and implement those land use options anywhere on the map
   2. If other players have currently used a square, we can’t make changes to that square unless they change their mind and give it up
   3. Focusing on one action and doing more of it can lead to lower costs for doing that action
   4. Different actions lead to payouts at different times
   5. Payouts go to the person who did the last action before the points were earned
   6. Some actions change the soil health, which has to be above zero to earn high yields
   7. We can pay any number of our points to other players at any time in the game
   8. We can take actions that change our farm and our choices - like loans or buying things - by choosing options in the second row at the left.

***[Before we move on and talk about the experiment, what questions can we answer about the game so far?]***

***[Continue to practice through the end of the game. Note to players that the game remains open for exchange of points after the end of harvest in the last turn. Allow the game to finish, and take any further questions]***

**Comprehension questions for start of Day 2:**

***[When the group has arrived for day two, go through ALL of these questions, and ensure that the correct response is understood by the group. Respond to any and all queries from participants using the rules of the game, without providing additional nudges, analogies, or encouragements]***

Before we get started today, we’ll do a bit of a review so that we can be sure we all have a shared understanding of what’s possible in the game. Here we go:

1. How can I get a high yield from a particular square? What has to be true?
2. What yield would I expect if I
   1. do low intensity land prep?
   2. forget to do crop growing?
   3. Crop on a square with a 0 for soil health?
3. What is a benefit of ‘specializing’ - e.g., focusing all of my points on doing one thing (like land prep)?
4. If I do land prep and crop growing on a square, but another player does the harvest, who gets the points?
   1. Is there any way I could get points for that harvest?
5. If I don’t use all of my points in a turn, what happens?
6. If I don’t have enough points to do something I want to do, what options do I have?
7. How does time move forward in the game?
   1. What is the only thing that happens in the ‘planning’ phase that is immediate?

Ok. Are there any other parts of the game you’re not sure about, or are we ready to try today’s games?

***Communication (discussion) is allowed in all rounds and treatments (throughout the game) within the time allocated to communication.***

***Recommend: max 2 mins of discussion time between rounds***

**[Enter the session ID for the current game group that is playing, starting with 1 for the first game group, 2 for the second group, etc.]**

**[For the player name in NetLogo - enter the HHID given in the ODK survey]**

**[Players play Baseline, ONE OF Treatment 1A and 1B, and Treatment 2. The order in which they play Baseline and one of Treatment 1A/B is randomized; they will then play Treatment 2 last. This ordering is already decided in advance for each Game group, and the condition for each game will be SHOWN IN THE GAME OUTPUT WINDOW ONCE THE GAME HAS LAUNCHED]**

[e.g., Treatment 1B -> Baseline -> Treatment 2]

[e.g., Baseline -> Treatment 1A -> Treatment 2]

**Baseline description:**

In this treatment, you’ll earn one Ks for every 4 points **you finish the game with**. So, if you finish the game with a score of 800 points, you’ll have earned 200 Shillings that will be paid to you along with your earnings from the other game at the end of today. Do you have any questions about this?

**Treatment 1A description:**

In this treatment, you’ll earn one Ks for every 4 points **the lowest-scoring player finishes the game with**. So, no matter how many points you have at the end of the game, if the lowest score among players in the game is 800 points, you’ll have earned 200 Shillings that will be paid to you along with your earnings from the other game at the end of today. Do you have any questions about this?

**Treatment 1B description:**

In this treatment, you’ll earn one Ks for every 4 points of **the average score at the end of the game**. So, no matter how many points you have at the end of the game, if the average score among players in the game is 800 points, you’ll have earned 200 Shillings that will be paid to you along with your earnings from the other game at the end of today. Do you have any questions about this?

**Treatment 2 description:**

In this treatment, you’ll decide the rules for how your group will play. First, **you’ll decide how you’ll earn for this game** - each player earning a shilling for every 4 points of i) their own score; ii) the lowest players’ score; or iii) the AVERAGE score for the game; or iv) some other rule you identify. We will decide this by a run-off vote - we’ll take a first vote to identify the top two choices, then vote again on only those choices. In the event of a tie, we will flip a coin to decide the payment plan. Next, you’ll decide any other rules the group should follow during the game. You can outline lots of rules and lots of details, or you can choose not to. It’s all up to you to decide. Do you have any questions about this?