



# **PATHBREAK**

**A Biodiversity-Food-Governance Game**

---

**Facilitator's Manual**

# 1. Welcome

Set up the game board as shown in Figure 1 below. You'll also need a computer with internet access to use our Web Application (Web App) for data input. For better visibility, connect your computer to a larger screen or projector.

Ensure everyone is seated around the table and focused. Let participants take any of the seats except the one reserved for the facilitator. Seats can be adjusted after participants receive their Role Cards. After each section, confirm that everyone understands the instructions. Address any questions, and if they relate to later sections, ask participants to wait for the explanation.

Welcome. I am [name] from [organisation]. We are meeting here because of the Horizon Europe Project – PLANET4B. PLANET4B is a project that investigates how we can make better decisions for biodiversity and people. It looks into how individual, community and institutional change can happen in relation to nature. Among other things,

the project adapts, tests and develops different intervention methods that help create space for social learning.

Today, you will be able to take part in one such social learning activity. It will last approximately 90 minutes, and I will be responsible for keeping track of the time. We will start with a couple of test rounds – you will play the game to learn the basics. Don't worry if you don't fully understand everything at the beginning; the test rounds are designed for learning by doing. Then, the real game will start after we are done with the test rounds.

The activity will finish with a debriefing. It is a crucial part of the activity, so let's stick with the schedule.

Take any of the seats around the table (see Figure 1).

Players should sit in such a way that they can easily reach the game elements.

Are there any questions about the general outline of the activity?

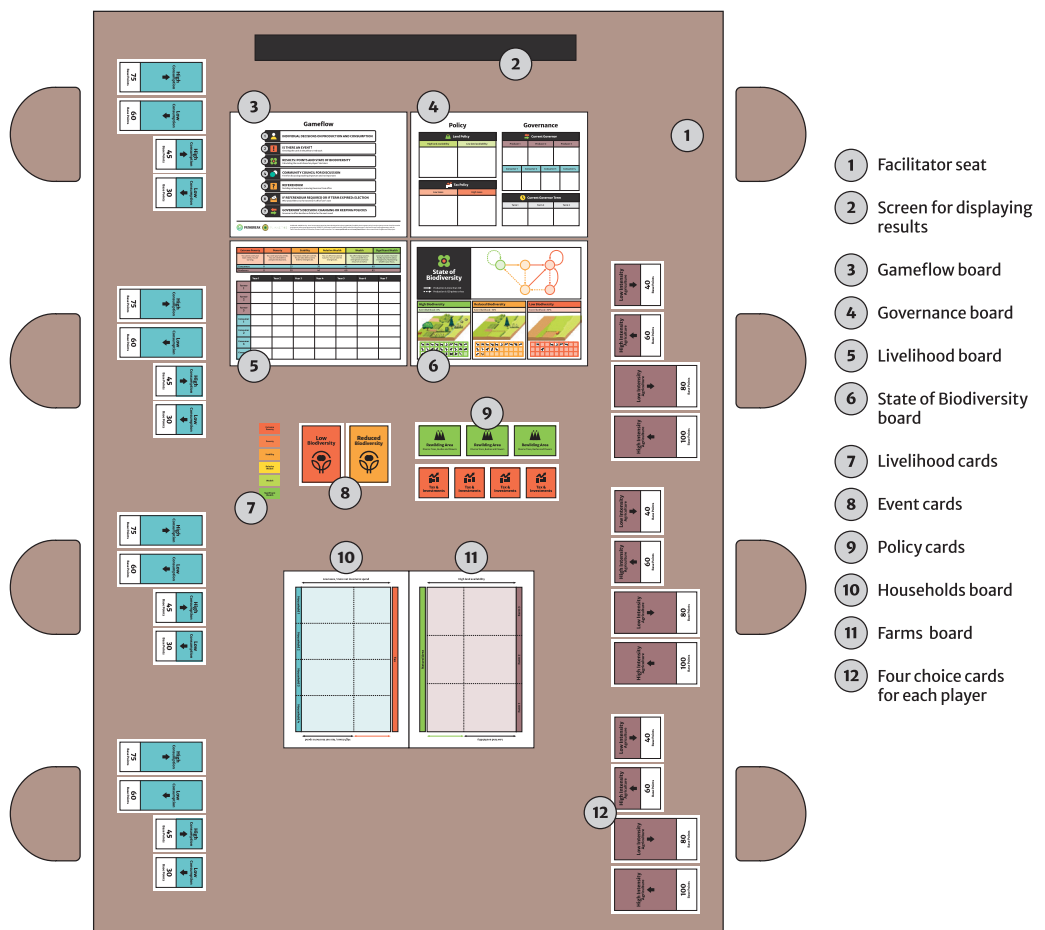


Figure 1. An example of table layout

## 2. Test Rounds: Basic Choices with Long Cards

Place the Choice Cards in front of each player, but ask them to focus only on the long Choice Cards for now.

Look at the two long Choice Cards in front of you. Imagine you have to choose between them. At the moment it doesn't matter why – just pick one of them in your mind. When I say "NOW," please place the selected card on the board in the field directly in front of you. Are you ready? Ok, "NOW" place the card you selected on the board.



Figure 2. An example of what the board could look like after placing the cards on the board.

### 3. Test Rounds: Results of Basic Choices – Points, How Market Works, State of Biodiversity

Enter the Production and Consumption data into the “Test Round: First Choice Card Decisions” step on the Web App, then click “CONTINUE”.

Figure 3. An example of Test Round

Show participants the “Test Round: Results”.

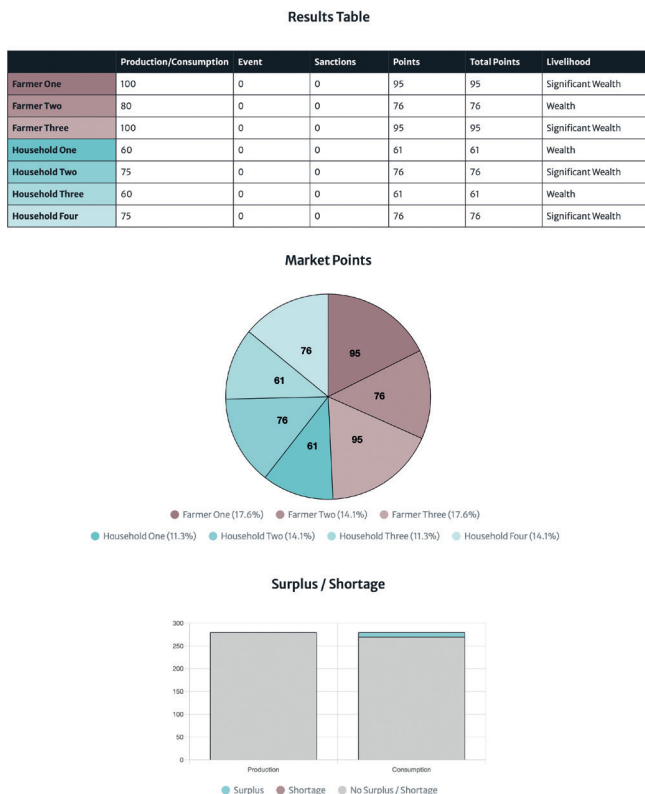


Figure 4. An example of Test Round Results

As you can see, your decisions are entered into the Web App.

Based on your individual decision and the decisions of others, you have an impact on two things:

- 1) how many points you receive and
- 2) the State of Biodiversity.

#### 1) Your points:

Looking at the first table (Figure 4), you can see how many points you receive.

Behind these points, there is a market, and it generally has two important rules:

- If there is too much food (surplus), Consumers receive more points because they can buy it cheaper.
- If there is too little food – there is shortage, this means Producers receive more points as they can sell it for a higher price.

You can see if we have too much food or too little food in the Surplus/Shortage bar chart (Figure 4).

Show participants the Surplus/Shortage bar chart (Figure 4). Inform them of the current state of the market. In this example: producers have produced more than consumers have demanded, which is why the blue part indicates a surplus of food (in other words, there is extra food compared to the demand).

On the “Market Points” pie chart (Figure 4), you can see how the points are shared between the farmers and consumers as a group, but also how they are shared among individual members of the community.

As a group, the number of points farmers and consumers receive depends on the balance between production and consumption.

As an individual, your points depend on how much food you were able to supply to the market as a farmer or take from the market as a consumer.

- If you produce more than the other farmers you will get a bigger slice of the profit.
- If one of the consumers decided to consume more than the others, that consumer will get a higher share of the points than the others.

If someone asks, explain that the points on the cards (“base points”) are only for when there is a perfect balance between production and consumer demand.

Show participants the Livelihood board – what points mean (Figure 5).

livelihood cards and place it on the corresponding cell of the board for Year 1. You will do the same in each round throughout the game.

Alternatively, you can ask one of the players sitting next to these cards to assist you with this task and place the corresponding livelihood cards every year for all players.

You can see what your points mean in terms of your level of livelihood. Now you know for this year whether you are doing well, struggling for survival, or somewhere in between. Please take one of the

You will do the same in each round every year.

Extreme Poverty	Poverty	Stability	Relative Wealth	Wealth	Significant Wealth
You cannot cover your basic needs. You are starving.	You cover your basic needs. You are vulnerable to unexpected situations.	Your basic needs are covered. You are also able to save a little for emergencies.	You can afford occasional luxuries. You can save for emergencies.	You often enjoy luxuries. You can handle most emergencies and have resources to invest.	Luxury is routine. You have hardly any worries about emergencies. Maintaining wealth is your focus.
Consumers	0	25	35	45	65
Producers	0	30	40	60	85

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Farmer 1							
Farmer 2							
Farmer 3							
Consumer 1							
Consumer 2							
Consumer 3							
Consumer 4							

Figure 5. Livelihood Board – what points mean

## 2) Your impact on biodiversity as a group:

Now, if you look at this board, you can see different farms. On the farms, you can see crops, but you can also see uncultivated areas with nature and wildlife. On some farms, you can hear the buzzing of insects and playful birds singing in the air and trees nearby. Sometimes, you may also observe some other animals such as foxes or falcons hunting rabbits, mice, or other prey. On the farm down below all these noises seem to be quieter. You can still catch a glimpse of some animals, but they are fewer of them. Crops are less diverse and take more space here and there is less biodiversity.

Scientists say that biodiversity loss can affect your whole community in multiple ways: less birds can mean less biological pest control, less diversity can lead to poorer soil health, less trees can lead to more soil erosion – all of these can have a long-term impact on your local area. They can also make you more vulnerable to potential events. Scientists say, the lower the biodiversity the lower the chance that you, as a community, will be protected from the consequences of a natural events.

Based on your decisions, we can see you have produced more than 120 units. In this game, this means you are moving to the orange area now – “REDUCED BIODIVERSITY”. And that will be important for the next round.

There are a few more elements. But are there any bigger questions so far?

If participants ask questions about the Events column or the goal of the game/reason for gathering points, let them know that it will be explained shortly.

If asked about the sanctions, sanctions are available in extraordinary situations. They will be explained later when we reach such a situation.

If no questions:

Ok, if there are no questions or at least no major questions, I will explain two more things: elections and events.

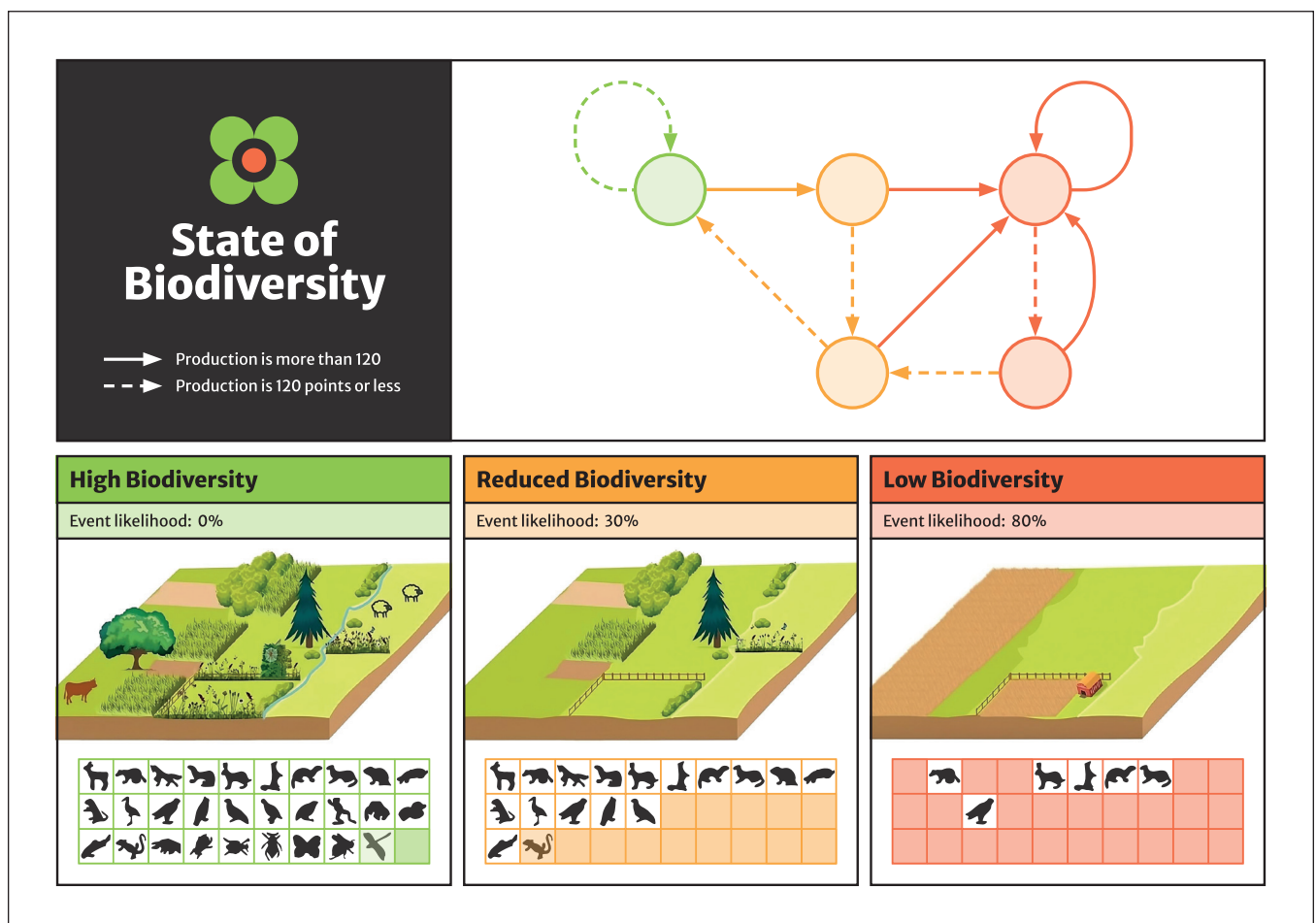


Figure 6. State of Biodiversity board

## 4. Test Rounds: Elections, Policies, Basic Choices with Short Cards, Events

The next thing the players can do is to elect a governor.

The governor can make important decisions in terms of Policy:

- how much land is given for agriculture – more or less (high or low land availability);
- and if the consumption tax that is used for investing in public infrastructure should be higher or lower.

Everyone can nominate themselves to become a governor. We will introduce some other nuances later.

But for now, let's try it – I need one volunteer: who would like to be a governor?

Ok, great, thank you [Player A].

[Player A], can you tell us in one sentence – why you would like to be a governor please? This will be your short political campaign message. You can be creative.

Ok, thanks.

In the game, we will have candidates and run the elections. But for now, let's imagine [Player A] was elected.

Congratulations [Player A]! Now you have a choice to change the Policies:

- Land Policy: You can have more land for agriculture or less land. You can use part of the land for rewilding for example, then you have less land for agriculture.
- Tax Policy: You can have higher taxes for consumers or lower taxes.

At the moment, we have more land for agriculture and lower taxes for consumers.

Now question to you, Governor: Do you want to keep these Policies how they are, do you want to change them, do you want to change only one of them?

Excellent. You get the idea, right?

Ok, let's imagine the governor decided to change both the Land Policy and Tax Policy. Then we will place these Policy Cards and use different Choice Cards.

Place the Policy Cards on their corresponding Household and Farm game boards.

Ask the players to take the long Choice Cards from the board and put them back to where they were in front of them. Then ask players to focus on a pair of short Choice Cards in front of them.

Now, please focus on the two short Choice Cards in front of you. In your hands you have two cards. Imagine you have to choose between the two. At the moment, it does not matter why – just choose one of the two in your mind. When I say 'NOW,' please place the selected card on the board. Are you ready? Ok, NOW.

Ok, thank you.

Now remember that you are in the state of "Reduced Biodiversity". This means, we need to draw a card from the orange stack. In this stack there are three cards with events and the rest are without events.

Let's see what we have.

Without looking, take a card from the orange stack and check if it is an event card.

### *If it is not an event:*

Wow, lucky you – there is no event.

Read what is on the card – something will be on the card that says – "there were some worries about possible floods, but luckily everything was ok for your community"

Now let's calculate the points. For that I need to enter the information in the Web App. One minute – ok, here are the results. Player B received the most points and Player C received the fewest points. In total for two rounds, Player A is leading, and Player D has the least points.

Let's take another look at this board to see what your points mean – if you are poor or wealthy or somewhere in between. Please place a new livelihood card to the corresponding cell for Year 2.

In total, you produced XYZ points, which means the state of biodiversity goes up/goes down/ stays the same.

***If it is an event card:***

Wow, bad luck – there is an event.

Read what is on the card

Now, because of the event, everyone automatically receives -80 points. On the Web App, select Yes under “is there an event?,” then “Continue” and see what happens. Here – everyone has “-80” for this round. After two rounds, Player B is leading, and Player C has the fewest points.

Let’s take a look again at the Livelihood Board to see what your points mean – if you are poor or wealthy or somewhere in between. Please place a new livelihood card to the corresponding cell for Year 2.

In total you produced XYZ points, which means the state of biodiversity goes up/goes down/ stays the same.

One last thing – in each round, there will be a referendum, to decide if you want to keep the governor in the office or elect a new one. And one person can remain in office for up to three consecutive terms without the need for new elections.

***If asked by the participants about the governance:***

- If you elect the Governor, that person can change the policies as they see fit. The Governor does not have to take the opinions of others into account. However, if the Governor loses the support of the citizens, they can be removed by referendum.
- The general limit for the number of terms in office is three, but they can be removed from the office at any round. You can also re-elect the same person once their three year term is over.

## 5. Gameflow

Show participants the Gameflow and introduce all elements as you describe them.

Each year we will do the same:

1. Farmers decide on how to use their land, and consumers decide on how to spend their budget. You will be making these decisions at the same time.
2. We will then check if there is an event.
3. We will then check how many points you have received and what happened to biodiversity.
4. There will be three minutes for the Community Council – to discuss anything important or not important.
5. Then there will be a referendum.
6. Then we have possibly an election.
7. Finally, the **Governor** will decide on **Policies**.

Is it clear?

Respond to any questions regarding the gameflow.

If asked about Sanctions or Voting, inform players that Sanction is possible in a specific situation but detailed information about these topics will be given when it is required and that you will come back to these topics.

If asked about the goal of the game, tell participants that it will be discussed shortly.

# Gameflow

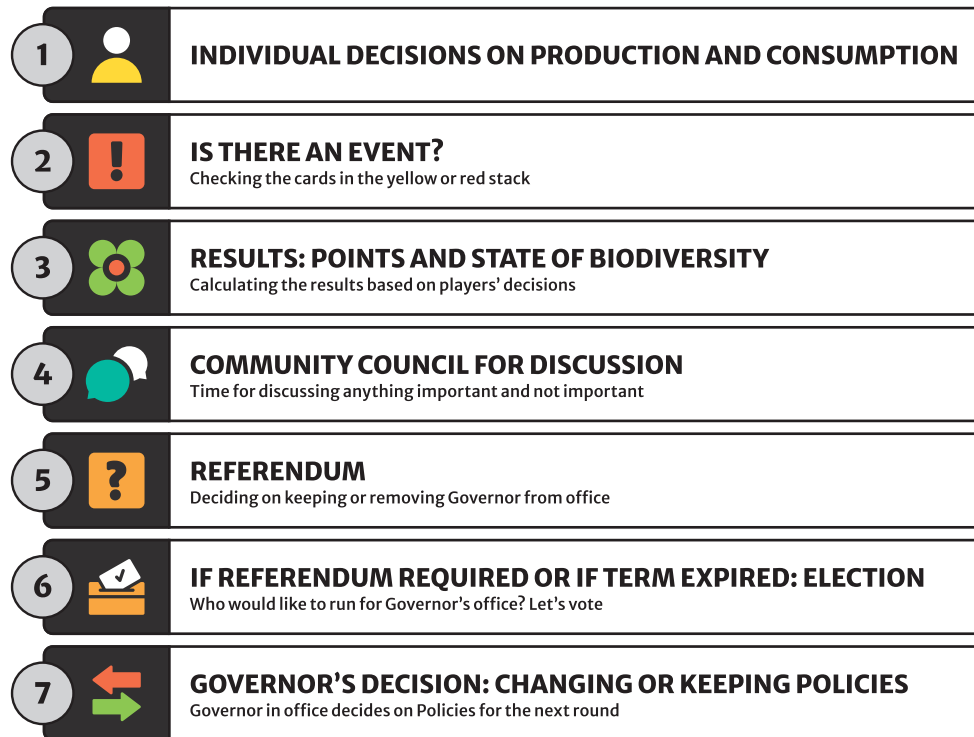


Figure 7. Gameflow

## 6. Goal of the Game

Now, you will learn more about your persona in this community...

Distribute the Role Cards: ask the participants to pick one from the stack without looking.

If needed, players should change their seats, so that everyone sits directly in front of their name. The board has names, and the cards have names – they should match.

Each of you received a card with information about your role. The card has some profile information that you can share with the others but it is up to you if and how to use that information and expand it with some details that you think are relevant. Read your card and take a few minutes to think about your persona.

Now that you have an idea of who you are, sit by the table in a way that matches the name on the board.

Generally, you are free to set your own goal for the game.

If the state of biodiversity is not in red, we have a small present for the player who has the most points by the end of the game.

Prepare a symbolic present – it could be a self-made origami-like gift, a certificate, a pen, etc.

I would like to ask you now to give others a brief introduction to your persona. For now, just give us your name and a one or at most two-sentence description of your persona so that everyone knows who you are.

Give each player an opportunity to introduce themselves.

## 7. First Round: Decisions

Remove all Choice Cards from the boards.  
Place the biodiversity token to high biodiversity.

What we tried was a couple of test rounds, obviously. Now the game begins.

- This is the first year.
- Current policies are: high land availability and low taxes.
- Biodiversity is back at a high level.

Ask participants to focus on long Choice Cards.

Think for a few seconds about your decision regarding production and consumption. I will tell you when to put the Choice Cards on the board. Remember, you will have to put them on the board at the same time when I tell you.

Give participants 5–10 seconds to think about their decisions.

Please put them on the board now.

## 8. First Round: Results

Point participants to the Biodiversity board.

At this point, biodiversity is high. If you decide to walk between the fields, you can see many different species. This means that even if there is an event, you are protected by the high biodiversity in the area. If you were in the orange or red state of biodiversity, we would use cards to check if there was an event.

If there is an event, not only will you lose your profit (points) for the year, but you will also have to compensate for the damage. This means that not only will you not receive any points in this round, but you will also lose 80 points due to the damage caused by the event.

Now please wait a second until we prepare the information about your points.

Put the decisions into the Web App into the Year 1.

Show the results to the participants.

Now you can see your results.

Comment on the results:

- Balance, surplus/shortage.
- Individual points – who earned how much, briefly on the most and least points, anything that stands out.
- Ask participants to take and place a corresponding livelihood card in the corresponding cell.
- Production was higher than 120 – so the state of biodiversity has changed to orange (reduced biodiversity). You can already see that there is a slight decrease in the appearance of the various species that were native to the area of the community. At this point, it may not seem serious, but it may affect you in the next round.

Move the biodiversity token to the new state.

## 9. First round: Community Council and Election

We are now getting to the Community Council and election period.

You have 3 minutes to discuss anything important or not important in the Community Council. After that, you will have the opportunity to nominate yourself for the governor's office and vote for the governor.

Let the participants discuss the situation for 3 minutes – keep track of the time.

Let's continue with the election of a Governor. Are there any candidates for the Governor?

I have to introduce one more rule that I didn't mention during the test rounds – unfortunately, Consumer 4, who does not have citizenship yet, cannot run for the office of Governor. And unfortunately, Consumer 4 cannot vote either.

So, the rules related to voting:

- Each player (except Consumer 4) can nominate herself/himself to become the governor.
- Each candidate can make a short statement.
- All eligible players vote. The candidate with the most votes wins, and becomes the governor.
- When there is a stalemate (e.g., equal number of votes for two candidates), there is no change.
- If you do not elect a Governor, the current policies do not change. Only the governor can change the policies, and this person does not have to follow your advice on this matter.
- Term can be up to 3 rounds, when one person is a governor for 3 consecutive rounds, the governor leaves the office and a new election is called.
- The sitting Governor can be removed from office by referendum. I will remind you about this option each round.

### *If there are candidates*

Note the Candidates.

If there are Candidates prepare some order in which they will make statements (e.g., alphabetical or in the order they raised their hands):

Please, the first candidate [name of the role, for example Farmer 2] give us a short statement.

After the statement, repeat the instruction until all candidates made their statement.

All candidates made their statement. Now you will vote. Please remember, everyone has only one vote.

Go over all candidates.

All in favour of the candidate [name of the role], please raise your hand. Candidate [name of the role] receives X votes.

Go over all candidates.

### *If there is winner of the election*

Candidate [name of the role] won the elections and will become the new **Governor**.

On the Governance board set the governor token to the current Governor and the term token to the first term.

### *If there was a stalemate:*

None of the candidates got the majority of the votes, therefore no one was elected for the office of the Governor.

In case there were three candidates and two of the top candidates received the same number of votes, an additional round of voting only between the top two candidates should be organised.

***If there is no Governor***

As there is no Governor the Policies will remain the same for the duration of the next round.

***If there is a Governor***

The new Governor, would you like to change the current Policies?

The new Governor, you have to make two decisions:

- 1) What is your decision on Land Policy? More land for agriculture or less land for agriculture?
- 2) What is your decision on Tax Policy? Higher taxes for consumers or lower taxes?

Update the tokens on the Governance board according to the decisions of the Governor.

Now we will start the second round of our activity.

**FOR EVERY ROUND FROM 2 TO THE END, CONSULT THE GENERAL GAMEFLOW.**

## General Gameflow - Decisions

Remove everything from the boards. Update the term on the Governance Board when there is a Governor.

- This is the X year of the game.
- Current Policies are: XXX.
- Biodiversity for this round is: XXX.
- This is the X term of the current Governor/  
Currently there is no Governor.

Give players Choice Cards corresponding with the current Policies.

Think about your decisions this year – how farmers would like to use their fields and how consumers would like to spend their money. When I say “NOW”, please put the cards on the board.

Wait a few seconds for participants to make their decisions.

NOW.

## General Gameflow - Results

Point to the **Biodiversity Board**.

### ***If biodiversity is high***

Biodiversity is high, therefore you are protected from events. We can go on to calculate your points.

### ***If biodiversity is reduced or low***

You are at [low/reduced] biodiversity. This means that there is [80%/30%] probability of event.

Take the stack with orange cards if it is Reduced Biodiversity, with red cards if it is Low Biodiversity. Shuffle them and draw one of the cards.

### ***If event card is drawn:***

Read what is on the card.

Unfortunately, you lose all your profits this round. In addition, you have to pay 80 to recover from the losses.

### ***If non-event card was drawn***

This time you were saved from an event. Let's calculate your points.

Read what is on the card.

### ***If there was no event***

Put information about production and consumption into the Web App into the Round X.

Your points are ready. Let's take a look.

Show participants the results in the Web App. Comment on the results:

- Balance, surplus/shortage.
- Individual points – who earned how much, you can mention briefly the most and the least points, and anything that stands out.
- Ask participants to take and place a new livelihood card in the corresponding cell.
- Accumulated points.

Now we will check how your production affects biodiversity.

Look at the farmers' decisions on the game board (not in the Web App – as it might be “0” in the Web App after the event) and see if total production was greater than 120.

Comment on the change of biodiversity and new state of biodiversity.

### ***If the biodiversity was low at the beginning of the round and it is still low after the change***

There is a significant loss of biodiversity. As the community seems to be locked in the red area – “Low Biodiversity”, and events are hitting hard, the Governor is temporarily given emergency powers to use sanctions.

This means the Governor can sanction someone. The sanctioned player loses 30 points.

**If it is 5th round**

I have just received information from the Immigration Office. The status of the consumer 4 has been resolved. You have been granted full citizenship with all the benefits and responsibilities that come with it. From now on, you can vote as well as run as a candidate in all elections and referendums.

Now, you will have 3 minutes in the Community Council to discuss anything important or not important.

Let the participants discuss for 3 minutes – keep track of the time.

**If there is a Governor before the third term.**

When there is a sitting Governor in office, after each round, there is a referendum on keeping or changing the Governor. How many of you would like to change the Governor?

If the majority is in favour, the Governor is removed from office, and there is no Governor.

**If there is no Governor or the Governor has finished their third term.**

Now, you are able to vote for the Governor.  
Who would like to nominate themselves for the position of the Governor?  
If there are no candidates, you won't be voting and you won't be able to change the policies. We will just move to the next round.

**If there are candidates**

Note the Candidates.

If there are Candidates, prepare an order in which they will make statements (e.g., alphabetical or in the order they raised their hands):

Please, the first candidate [name of the role], give us a short statement.

After the statement, repeat the instruction until all candidates made their statement.

All candidates made their statements. Now you will vote.

Go over all candidates.

All those in favour of the candidate [name of the role], please raise your hand. Candidate [name of the role] receives X votes.

Go over all candidates.

**If there is winner of the election**

Candidate [name of the role] won the elections and will become the new Governor.

On the Governance board, set the governor token to the current Governor and the term token to the first term.

**If there was a stalemate:**

None of the candidates received the majority of the votes, therefore no one was elected for the Governor's office.

In case there are three candidates and two of the top candidates receive the same number of votes, an additional round of voting between only the top two candidates should be organised.

***If there is no Governor***

As there is no Governor, the Policies will remain the same for the duration of the next round.

Which means:

Read the status of the Policies in force: for example, there is high land availability and low tax.

***If there is a Governor***

Governor, would you like to change the current Policies?

New Governor, you have to make two decisions:

1) What is your decision on Land Policy?

More land for agriculture or less land?

2) What is your decision on Tax Policy?

Higher taxes or lower taxes?

Update the tokens on the Governance board according to the decision of the Governor.

***If there is an emergency power of sanctioning***

Now, due to the emergency powers, the Governor can decide to sanction any member of the community. A sanction equals 30 points that will be deducted from their accumulated points.

Governor, would you like to sanction anyone?

Choose the player you want to sanction in the Web App.

Ask the sanctioned Player to renew the livelihood card - if that changed after the sanction.

***If it is not the final round***

Now we will start the next round.

***If it is the final round***

This was the final round. Thank you for your participation.

Now we can go out of the game world, have a 5-minutes break and begin the debriefing.

# Debriefing

It is useful if the participants have a short break and can disconnect from their roles for the debriefing. For this, think of changing the circumstances a little for the debriefing. Perhaps instead of sitting around the table, sit in a circle just next to it. This could help create the feeling that what happened at the table was separate.

Below are the key topics recommended to cover in the debriefing. But keep in mind that participants will likely be moving from one topic to another. The facilitator needs to hit the right balance between being focused on the questions and letting the participants express themselves freely even if what they say is not directly connected to the questions.

## A. Getting into the debriefing

1. Can you describe how you feel with one word?
2. What would you like to share with us based on your experience?

## B. Understanding of what happened

3. What, in your opinion, is the main theme or topic of the game that we have just had?
4. What are your reflections about the experiences you had?

## C. Specific perception of the potential of the intervention to trigger intra-, inter-, institutional change

5. How was your experience about the relationship between individual and group in the game?

6. If you think about where you spend your time – your local community/work/friends – do you think the experience could be used to discuss or change some rules, habits, practices or maybe even policy?

## D. Perception on intersectionality

7. How do you think your experience relates or not to different cultural, gender, age, educational backgrounds people have in a society?

## E. Learning about biodiversity specifically

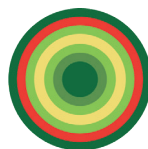
8. Do you feel that through your experience you have learned anything specifically about biodiversity? If yes, what?
9. Do you feel that your experience has motivated or demotivated you to do something in relation to biodiversity/nature/environment in the near future? If yes, what?
10. Do you feel your experience was helpful to learn about how to slow down or halt or maybe even reverse biodiversity loss?

## F. Other

11. Do you have any other comments about your experience?

Ask the participants to fill out the short survey on the Web App.

If there are any next steps that are relevant for the participants (e.g., if you are planning to meet again or anyone would like to know more about the game or project, inform participants accordingly). Thank everyone for their time and participation.



PLANET4B

Understanding Plural values, intersectionality, Leverage points, Attitudes, Norms, behaviour and social Learning in Transformation for Biodiversity decision making.

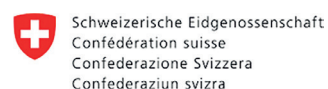
Go to [www.pathbreak.eu](http://www.pathbreak.eu) and [www.planet4b.eu](http://www.planet4b.eu) to learn more about the game and the project.



PLANET4B receives funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101082212.



This project is funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee.



This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).