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Environmental Security Research Group

OVERVIEW

Objectives of the Game

The following roleplaying activity is designed to provide insight into the challenges of achieving stabilization within climate-exacerbated scenarios. The scenario places players within a province in a fictional state at risk of environmental disaster and conflict as a result of stresses from climate change.

The game asks players to imagine that they are making strategic decisions over a period of 25 years. These decisions are made over the course of 5 rounds. At the start of each round, players are asked to make their decisions. At the end of each round, they are shown the climate impacts that occur in the 5 years that have followed their decisions.

Although the game is based upon a specific 'stabilization' scenario, it seeks to provide players with insight into two broader challenges faced by contemporary security, diplomacy and development stakeholders:

(A) Accounting for likely 'short-term' and 'mid-term' climate impacts within strategy-making;
(B) Understanding how competing or common interests of inter-sectoral stakeholders can impact upon decision-making and outcomes in operational environments.

Copyright and Contributions

This roleplaying scenario is based on an original stabilization scenario created by Dr. Richard Milburn (2022). It was developed from a mixture of scholarly research and wider practitioner lessons derived from 'Operation Corded', a British military anti-poaching operation in Malawi and Zambia that was designed to help tackle illegal wildlife trade in sub-Saharan Africa. The development process involved contributions from a range of UK governmental and non-governmental advisors (including UK MoD, FCDO, Defra, and King's College London).

The game was created as part of a wider project of collaboration between Tunza Games Ltd. and the Environmental Security Research Group (ESRG) of King's College London. This project was funded initially by the King's COP26 Engagement Grant. Further development of the game was supported by seed funding from the Circle U. European University Alliance, as part of a new research project entitled "GAMEngage: Gamification for stakeholder engagement".

For further information please visit:

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Additional Opportunities

If you have any questions regarding the game design or the instructions provided, or if you would like to discuss the possibility to collaborate on developing similar roleplaying scenarios, please reach out environmental-security@kcl.ac.uk

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INSTRUCTIONS FOR FACILITATORS

In Person and Online Delivery

The game can be played either (a) in-person or (b) online with the use of videoconferencing software. The videoconferencing software, however, must have the ability to divide players into separate 'breakout rooms' for each round of the game.

Phases of the Game

Phase	Task	Timing
1	Preparatory work (printing, read facilitator instructions, etc)	1-2 days in advance
2	Set up room, distribute player handouts and action pieces, and allocate players to teams	10 minutes
3	Introduce the game and its objectives (and answer any questions)	20 minutes
4	Let players choose and read their 'stakeholder roles'	10 minutes
5	Play the game for the first time, in the following manner: • 5 minutes – The players place their different 'activities' on the map. • 2-3 minutes – At the end of this round, they receive 3x 'Event Cards' which affect the actions they have played. Each team then adjusts the pieces on their map to account for the Event Cards. • Repeat these two actions for four (4) more rounds.	45 minutes
6	Wrap up the game, including any relevant discussions or questions	No fixed time
7	(If time permits) Replay the game, using the different format options available	15-30 minutes

The following pages provide detailed instructions on what the facilitator needs to do during each of the seven phrases of the game, from 'preparation' through to 'wrap up'. Facilitators can use these pages as a step-by-step instructions manual, which they can refer to for each step of implementing this game.

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PHASE 1: PREPARATORY WORK (PRINTING, READ FACILITATOR INSTRUCTIONS, ETC)

Printing off documents (for face-to-face gameplay)

Please print off one copy of the 'Player Handout' for each team (e.g. intelligence briefing, available actions, game set up, gameplay reference sheet, map and stakeholder roles). You may also need to do the following:

- If you intend to play the game more than once within a session then you may wish to print and cut out 'Event Cards' for each team (Appendix 1)
- If you do not have any physical objects for the board game pieces (e.g. tiddlywinks or wooden blocks) then you can print and cut out paper pieces instead (Appendix 2). You should provide each team one set of pieces.

Providing electronic documents (for remote / videoconferencing gameplay)

If you wish to play the game online, then please provide attendees with:

- An electronic copy of the 'Player Handout' in advance of the session.
- An 'Microsoft Word' version of the map that can be edited online (one for each team). Specifically, one participant can project their screen to their group with a copy of the map. They can then copy and paste the 'symbol' for each action onto the map when they play that action.

Editing the Event Cards

Appendix 1 contains a selection of 'Event Cards' that the facilitator can choose from at the end of each round, in order to generate the 'hazards' that players must then respond to in the following round. Some facilitators may wish to emphasise certain environmental threats more than others, depending on the goal of the session (e.g. plastic pollution, unsustainable farming methods, global heating). To achieve this, facilitators are welcome to edit the 'descriptions' of the event cards. However, you should not edit the 'impacts' of the event cards. For example, consider the sample 'event card' on the right:

- You may edit the description: "Lack of clean water access can inhibit local development".
- But you should not edit the impact: "Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there".
- You should also try to align your 'description' with the 'impact' itself. For example, A3, B1, B3 and C3 are areas of the map that do not have access to a natural water source. However, they do have residential populations and industrial resources. As such, if you change the 'description', you should ideally account for these contexts.

Round 1
Lack of clean water access can inhibit local development. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there

NB. Why can't you edit the 'impacts' of the event cards? Doing so could make the game more realistic, by highlighting the non-linear nature of environmental impacts. However, it can also make the game far more difficult to win. This can make the experience less engaging for participants which, in turn, reduces its effectiveness as a learning tool. Thus, a balance has been struck between 'realism' and 'motivation'.

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PHASE 2: SET UP ROOM, DISTRIBUTE PLAYER HANDOUTS AND ACTION PIECES, AND ALLOCATE PLAYERS TO TEAMS

Room Set Up

There is no specific way in which you 'must' set up the room for this game. However, please bear in mind the following:

- For online games, you will need the ability to separate different teams into different 'breakout rooms'. You can then (a) move them into their 'breakout rooms' for each round so that they can decide what actions to play, and then (b) bring them back into the main room at the end of each round to announce the end of round 'events'.
- For in-person games, each team should have a table capable of sitting 4-8 people with an A4 sized map in the centre of the table. The table should also have enough space for the game pieces and the player handout (e.g. intelligence briefing, stakeholder roles, etc).

Distribute Player Handouts

Each team should have:

- A copy of the 'player handout' (including the map and stakeholder roles)
- The following 'action pieces' to be used on the map:
    - 10 x Industrial Development
    - 10 x Sustainable Development
    - 10 x Disaster Risk Reduction
    - 10 x Peace, Security and Law Enforcement
    - 2 x Disaster Relief
    - 15 x Hazard pieces

  If you do not have physical objects that you can use for 'action pieces' (e.g. tiddlywinks, buttons, etc), then you can print off action pieces for each team using the template in Appendix 2.
- (OPTIONAL) If you are playing for a 'second' or 'nth' time, then you may wish to print off 1 x set of Event Cards for each team. They can then choose these events at random at the end of each round, rather than forcing the facilitator to 'announce' a pre-selected set of events. A set of Event Cards are available in Appendix 1.

Allocate the Players into Teams

Ideally, a team should consist of 4 players. However, teams can consist of anywhere between 3-8 players.

How you choose to divide the players into different teams depends on the outcome you wish to achieve. For example:

- If you are running the game for people from different sectors or organisations, you may wish to mix the teams so that each team contains officials from different sectors.
- If you are running the game for people from a single organisation, team or seminar group, you may wish to mix the teams based on each individual's expertise, role or personality (e.g. mixing people with different levels of competitiveness, or allocating people to a specific stakeholder role based on their real life expertise).

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PHASE 3: INTRODUCE THE GAME AND ITS OBJECTIVES (AND ANSWER ANY QUESTIONS)

Facilitator Instructions (can be read 'verbatim' to participants)

The following roleplaying activity is designed to give you an insight into the ways in which environmental shifts may generate instability in different towns, cities and provinces, as well as the challenges faced in providing stability in these scenarios. It is based upon direct experiences of stabilization practitioners.

What is the goal of the game?

In your player handout there is an 'intelligence briefing'. This has detailed information on the province that you are being asked to stabilize. This includes the threats that this province faces and the resources it has available. You can refer to this briefing throughout the game. However, in summary:

- The game is asking you to imagine that you are based in a central province of a fictional country. This province is at risk of conflict and human insecurity due to environmental shifts and other factors. The province also has a range of important natural resources and industrial opportunities.
- You are part of a group of different stakeholders, who are responsible for deciding where and when to use the resources at your disposal, in order to reduce the risk of a climate crisis.

So how do you actually play the game?

On the handout in front of you, there are step-by-step instructions on how to play the game. You can refer to these throughout the game. However, I'm going to quickly summarise the gameplay now:

Objectives

The objective of the game is simple… you need to avoid a 'climate crisis' occurring in the province.
So what counts as a climate crisis?

- If you have a look at your map you'll notice that it is divided into 9 squares. You'll also notice that on the left of the map you have different symbols. One of those symbols is labelled 'Hazard'.
- By the end of the game, if any of the 9 squares of your map contains three (3) or more hazards, then you are in a state of 'climate crisis' and your entire team has lost the game.

Actions Available

So how do you avoid a 'climate crisis'?

In order to avoid a situation in which hazards are accumulating on your map, you will need to play certain 'actions'. Each team has **four core actions** they can take to avoid a 'climate crisis' occurring. A detailed breakdown of these is available in the player handout. In summary:

- **Sustainable Development** can help local populations adapt to environmental shifts, but it may take some time to reap the benefits of this action. Furthermore, it cannot solve all of your problems.
- **Disaster Risk Reduction** can reduce the likelihood of natural disasters in your province leading to active Hazards on the map.
- **Peace, Security and Law Enforcement** can help create the security required for economic development, but too many personnel can pose risks (from resentment to corruption).
- **Industrialised Development** can help with the employment and trade that is critical for stability, but too much industrial activity can generate its own environmental and geopolitical risks.

In addition to these four core actions, you can ask for **Disaster Relief**. Simply put, if you play a Disaster Relief piece in one of the squares on your map, then it will remove some of the hazards from that square. However, you can only play a Disaster Relief action twice in the entire game.

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Gameplay

So, when are you meant to play these different actions?

Depending on the time available, there are up to 5 rounds within the game.

- **During each round**, you will be given 5 minutes to decide which actions to play as a team. In each round you can play up to 4 of your stabilization actions.
    - *So, for example, in one round you may decide to play 3 x* Peace, Security and Law Enforcement *and 1 x Disaster Risk Reduction. In the next round, you may decide to play one of each action. And so forth.*
- **At the end of each round**, you will be shown the environmental 'events' that have occurred in the 5 years following your decisions. Specifically, after each round you will have to deal with 3 events that will affect the overall stability of your province and the value of the stabilization actions that you have chosen.
- **At the end of the game**, we'll see which players and teams have the highest scores and (if time permits) we can discuss what you've learned from the game.

[Ideally, you now try to provide an 'example' of the gameplay. Pretend that you are playing the game yourself. Place a few pieces on the board and explain your logic. Then read out a 'climate event' to show what happens at the end of the round. Repeat this one or two times.]

Stakeholder roles

So that is the basic overview of the game. However, there is a twist. Each of you will **represent a different stakeholder** with different objectives and different ways of gaining points. As long as your team isn't in a state of Climate Crisis by the end of the game, then one person will be the highest scorer in the team and, as such, will win the game.

As such, your ability to collaborate with each other will be influenced by the degree to which your stakeholder roles complement or clash with each other. It is up to each of you as individuals:

- How transparent or secretive you wish to be about your objectives, and
- How competitive or collaborative you wish to be with your team-mates.

Finally, although you must collaborate and make decisions as a team… at the end of each round, **the final decision** on 'which actions to play' and 'where to play these actions' must be approved by whichever player is representing the stakeholder role of 'Senior Government Official'.

Q&A

So that is the overview of the game. Your handouts have more detailed instructions, which you can refer to as you are playing. *Before I let you choose your stakeholder roles, does anyone have any questions?*

Choose your stakeholder

So, before we start the game you need to choose the stakeholder you will represent. You should have a set of stakeholder roles printed out in front of you. A few small notes before you choose your stakeholder roles:

- You are welcome to choose whichever stakeholder you wish, BUT there one person in each team must play the role of 'Senior Government Official'.
- You will notice during the game, that certain stakeholders have different levels of power, and that some players may be more competitive or passive than others.
- These are the kinds of dynamics that you might experience in a real-life operational scenario. As such, this is very much a purposeful component of the game.
- Above all, your experience and enjoyment of this game will be increased significantly if you embrace the objectives of your stakeholder role.

You now have 5 minutes to decide what stakeholder you wish to play within your team.

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PHASE 4: LET PLAYERS CHOOSE AND READ THEIR 'STAKEHOLDER ROLES'

Give teams 5 minutes to choose their stakeholder roles. The following conditions apply:

- Each role can only be selected by one player (and cannot be shared by two players).
- One member of the team must represent the 'Senior Government Official'. This official is responsible for approving 'which actions to play' and 'where to play these actions' at the end of each round.

PHASE 5: PLAY THE GAME FOR THE FIRST TIME, IN THE FOLLOWING MANNER:

If your participants have not played this game before, then you should dictate the 'Event Cards' at the end of each round. In particular, we recommend the following events (which seek to balance difficulty and achievability):

Round 1 Give players 5 minutes to place their 'actions' on the map.

After 5 minutes, announce that the following events have occurred in the 5 years since they played their actions. Provide enough time during your announcement for players to place the Hazards on their map:

- Unsustainable industrial farming is increasing water stress. Add a Hazard on A2, B2 and C2 if they have Industrial Development.
- If forests are not suitably managed, they will be exploited unsustainably. Add a Hazard on A1, A3 and C1 unless you have played activities in them.
- It is vital to protect transport infrastructures for trade and logistics. Remove 1 Hazard from any square on the board if you have a PSLE deployed in B1, B2 or B3.

Round 2 Give players 5 minutes to place their 'actions' on the map.

After 5 minutes, announce that the following events have occurred in the 5 years since they played their actions. Provide enough time during your announcement for players to place the Hazards on their map:

- Insurgents are using forests as bases for their operations. Add a Hazard on A1, A3 and C1 unless you have activities there.
- Resource equity in densely populated areas reduces the risk of violence. Remove 1 Hazard from A3, B1, and B3 if you have played a sustainable development there.
- If the main supply route is not maintained and protected, the whole province will suffer. Add a Hazard on B1, B2 and B3 unless you have activities there.

Round 3 Give players 5 minutes to place their 'actions' on the map.

After 5 minutes, announce that the following events have occurred in the 5 years since they played their actions. Provide enough time during your announcement for players to place the Hazards on their map:

- Keeping roads open is key to keeping goods and people moving. Add a Hazard to B1, B2, and B3 unless you have activities there.
- Major rivers are at higher risk of flooding. Add a Hazard to A2, B2 and C1 and C2 unless they have disaster risk reduction.
- Too many foreign soldiers increases local resentment. Add 1 Hazard to any square with a PSLE in it if you have played 4 or more PSLE in total.

Round 4 Give players 5 minutes to place their 'actions' on the map.

After 5 minutes, announce that the following events have occurred in the 5 years since they played their actions. Provide enough time during your announcement for players to place the Hazards on their map:

- Livestock farmers seek to offset losses from market instability by using unregulated pastures for grazing. Add a Hazard to any square without activity in it.
- Natural disasters can block roads, preventing goods and people moving. Add a Hazard to B1, B2, and B3 unless they have disaster risk reduction or PSLE deployed.
- Mining of rare earths has enhanced trade and renewable energy. Remove 1 Hazard from any square on the board for each Industrial Development activity you have played in A1, B3 or C1.

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Round 5 Give players 5 minutes to place their 'actions' on the map. Give them the following reminder:

> *"Your role or influence in the province is now coming to an end. As such, you now have to play your final actions. Once you have placed these actions, I will announce the final events that occur in the five years since you gave up your role. You will not be able to respond to these events, so try to make sure that you have prepared the Central Province for any eventualities it may face."*

After 5 minutes, announce that the following events have occurred in the 5 years since they played their actions. Provide enough time during your announcement for players to place the Hazards on their map:

- Environmental insecurity increases the risk of inter-group violence. Add a Hazard to any square on the board without activity in it.
- Global heating increases the risk of natural disasters. Add I Hazard to any square on the board without a disaster risk reduction.
- Burning fossil fuels drives average global temperatures towards 3°C. Add 1 Hazard to every square on the board if you have Industrial Development activity in A3, B1 or C3.

PHASE 6: WRAP UP THE GAME, INCLUDING ANY RELEVANT DISCUSSIONS OR QUESTIONS

After players have placed the last 'Hazards' on their board, guide them through the following process:

1. Give players a few minutes to 'add up' their final scores, based on the score they have gained in each round.
2. Ask teams to confirm which of them have successfully avoided a 'Climate Crisis' (i.e. none of the squares on their map have 3 or more Hazards within them).
3. Ask teams to confirm which individual had the highest overall score within each team.
4. Facilitate any discussion or questions regarding the game. For example:
    a. Ask the winning teams what factor(s) were most important in helping them to succeed.
    b. Ask the losing teams what factor(s) were most important in stopping them from succeeding.
    c. Ask all teams:
        - What would you do differently next time?
        - What have you learned about stabilization operations?

PHASE 7: (IF TIME PERMITS) REPLAY THE GAME, USING THE DIFFERENT FORMAT OPTIONS AVAILABLE

Having played the game once, players should now be comfortable with its basic goals and dynamics. This provides an opportunity to let them experience the game with a more realistic level of challenge, complexity and uncertainty. There are various options available for achieving this. Some potential examples include:

<u>Randomising the 'Event Cards'</u>

Let players randomise the Event Cards at the end of each round, through one of three methods. All three of these methods require you to print off and cut out 'Event Cards' to use on the day (see Appendix 1):

Option 1 (Less visibility on future events, but more 'breadth' of risk faced)

- Have the players place the Event Cards face down, with one pile of cards for each round.
- At the end of each round, they select three cards at random from the relevant pile.

Option 2 (More visibility on future events, but more chance of 'compound' risks)

- Have the players place the Event Cards face down, with one pile of cards for each round.
- At the end of each round, they turn over the cards from the relevant pile to see the possible events.
- They then role dice to decide which three events will occur (using the dice symbol on the Event Cards).
- If they roll the same dice number more than once, then they must play the effects of that 'event' again.

Option 3 (More visibility on future events, and more chance of 'compound' risks)

- Put all the event cards for all teams for Round 1 within a bag.
- For each round, allow players to pick three events from the bag (without looking into the bag).

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Changing the Event Cards

Appendix 1 contains a selection of 'Event Cards' that the facilitator can edit if they want to emphasise certain threats. To achieve this, facilitators are welcome to edit the 'descriptions' of the event cards. The cards provide two options:

Option 1: Edit the descriptions in the existing events.
Facilitators are welcome to edit the 'descriptions' of the event cards. However, you should not edit the 'impacts' of the event cards. For example, consider the sample 'event card' on the right:

- You may edit the description: "Lack of clean water access can inhibit local development".
- But you should not edit the impact: "Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there".
- You should also try to align your 'description' with the 'impact' itself. For example, A3, B1, B3 and C3 are areas of the map that do not have access to a natural water source. However, they do have residential populations and industrial resources. As such, if you change the 'description', you should ideally account for these contexts.

Round 1
Lack of clean water access can inhibit local development. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there

Option 2: Expanding the number of possible events.
You can also expand the number of potential Events that players are able to choose from each round, by adding descriptions to the 'blank' cards provided in Appendix 1 (i.e. the cards with dice numbers 7-12 on the front). This will enable players to have 12 Event Cards to choose from in each round, with a different 'description' for each. This will increase the sense of complexity and chance (as well as enabling players to choose their cards with a two dice roll).

Changing Player Roles

Given that the full game is meant to represent a 25 year period, you may also wish to change the roles of different players as would occur in real life. Examples of this could include:

Option 1: Move players between different teams.

- Tell one or more players who represent an 'international' stakeholder (e.g. an NGO, Multinational Corporation or PSLE), that their organisation has relocated them to a different province. Then move those players to a different team. For example:
  - Swap two players on different teams on a one-for-one basis (e.g. swap the Multinational Agricultural Corporation player from one team for the Multinational Agricultural Corporation player from another team).
  - Place players in different teams where their role doesn't yet exist (e.g. move one Forestry Conservation NGO from one team to a team which doesn't have a Forestry Conservation NGO).

NB. Their points from previous rounds will still be counted in their final total.

Option 2: Change stakeholder roles within a team (temporarily or permanently)

- Tell the player(s) who represent the 'Senior Government Official' that there has been a shift in power and they are no longer a government representative. They can be replaced in various ways, such as:
  - Announce that the 'Local Influencer' has been elected to the role of 'Senior Government Official'.
  - Get the team to vote for the player they wish to become the new 'Senior Government Official'.
  - The former 'Senior Government Official' can then choose a separate role from the stakeholder roles still available.

NB. *The points from previous rounds will still be counted in their final total (i.e. for the players that have changed role).*

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Option 3: Remove players from the gameplay (temporarily or permanently)

- Tell one or more player(s) in any stakeholder role that they have experienced a personal obstacle (e.g. a health crisis, a new family dependent, etc). This will require them to 'skip a round'.
    - They will still gain points at the end of the round, based on the actions played by their teammates. However, they must remain silent during the round and cannot influence the decisions of their teammates.

  NB. If you decide to apply this to the 'Senior Government Official' then the other players on the team can decide which actions to play within that round without the 'final approval' of this official.

- Choose the player with the lowest points in the team and tell them that they have been fired from their organisation due to their performance.
    - They must remain silent for the rest of the game and cannot influence the decisions of their teammates.
    - They cannot gain any more points for the remaining rounds.

  NB. It is advisable to play this option at the end of Round 4, so that players do not have to wait for too long until the end of the game.

Option 4: Change the objectives of different players

- Tell one or more player(s) in any stakeholder role that their objectives have changed (e.g. the multinational energy corporation is now seeking to enhance sustainable development due to changing legal frameworks, etc). This will require them to change their strategy.
    - They will still gain points at the end of the round. However, they should change their 'objectives' to account for this (e.g. points for 'Industrial Development' should now be points for 'Sustainable Development'.

If you develop any alternative 'methods' or 'narratives' for changing player roles that you believe are effective and enjoyable, please let us know at environmental-security@kcl.ac.uk

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PLAYER HANDOUT

GAME SET UP

- Lay out the 'map' so that it is accessible and visible to all players.
- Check that you have the following 'action' pieces:
    - 10 x Industrial Development
    - 10 x Sustainable Development
    - 10 x Disaster Risk Reduction
    - 10 x Peace, Security and Law Enforcement
    - 2 x Disaster Relief
    - 15 x Hazards
- Choose from the stakeholder roles available to you

OPERATIONAL BRIEFING

You are working in the central province of the country of Badilisha. It faces significant climate-induced risks. The province also has an array of exploitable agricultural, mineral and oil resources, sought after locally and internationally.

It is 'highly likely' that average temperatures will increase, leading to more frequent and stronger environmental disasters (including flooding, landslides and drought). It is 'likely' that insurgents will seek to establish bases in concealed forest areas and exploit resources for their campaigns. They may attempt to recruit poor communities who don't feel supported by the government. It is 'highly likely' that international stakeholders will try to gain strategic advantage and access to resources through direct and proxy actions. All of these variables could impact on stability in the area.

You are responsible for working with other stakeholders to decide where and when to deploy your limited resources over the next 25 years, to enable development and reduce crises. You are able to deploy five different types of activity to achieve this.

GAMEPLAY

During Each Round:

- You will be given 5 minutes to decide which actions to play as a team.
- In each round you can play up to 4 of your stabilization actions.

At the End of Each Round

- Three Events will be announced. These will be environmental hazards that have occurred in the five years since they you played your actions.
- These Events will be presented in one of two ways:
    - The game facilitator will unilaterally decide what Events to show you.
    - Your team picks an Event at random (from a pile of cards available to you).
- Add or remove hazards from your map, based on the impact of the Events.

At the End of the Game

- At the end of the final round, you will be presented with a final set of Events which you will not be allowed to respond to (i.e. as your role in the province will have ended).
- After the final Events are announced, teams must announce whether they have succeeded in avoiding a 'climate crisis'.
- Players add up their final scores and the highest scores are announced. The final score includes all points gained and lost at the end of each round of the game.

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STABILIZATION ACTIONS

You have five actions to choose from:

INDUSTRIAL DEVELOPMENT (ID): ID may include intensive agriculture, industrial resource extraction, and economic liberalisation. CD is a double-edged sword. The province has agricultural land and fossil fuels that can generate funds for development. Its critical minerals can help global efforts to fight climate change. However, unsustainable industrial activity is likely to cause harm over time (e.g. reshaping migration patterns, creating geographical wealth inequities, and increasing the risk of Hazards).

SUSTAINABLE DEVELOPMENT (SD): SD supports socially and environmentally equitable resource use (e.g. supporting indigenous knowledge sharing, local enterprise, health and education infrastructures, clean water and renewable energy). It is likely that SD will help local populations adapt to climate change and build livelihoods to alleviate poverty. SD is unlikely to have negative consequences on the environment. However, it can take time to reap the benefits of this action and it cannot solve all the challenges you will face.

DISASTER RISK REDUCTION (DRR): DRR enhances resilience against environmental hazards (e.g. implementing systems for alerting populations to disasters, enabling nature-based solutions for flood and drought, mitigating waste and pollution risks from industrial development, enhancing local community cohesion and agreements). DRR is highly likely to reduce the impact of climate hazards. These hazards will be more common in the mid-term future but may also occur in the short-term future.

PEACE, SECURITY & LAW ENFORCEMENT (PSLE): PSLE can help prevent attacks, racketeering and recruitment by insurgent groups, and enable economic development (i.e. by ensuring security of workers and key supply routes). However, having too many PSD for too long poses risks. Over time is likely to cause resentment among locals and can increase the risk of individual personnel engaging in corrupt, violent or humiliating activities.

DISASTER RELIEF (DR): DR can be played on any square to remove Hazards from that square. If a square has 1-2 Hazards, DR will remove all these Hazards. If a square has 3 Hazards or more, DR will only remove 1 Hazard from that square. It can only be played twice in the entire game.

HOW TO PLAY YOUR ACTIONS

'Core' Actions

- You can play up to 4 actions within each round. You do not have to play all of your available actions if you do not wish.
- You can play any combination of actions you wish (e.g. you can play 4 of the same action, or one of each action, or any other combination).
- As well as 'adding' new actions to the board, you can swap actions on the map with those from your store on a one-for-one basis (e.g. you can take 1 action off the board and replace it with 1 action from your store).
- You can redeploy activities that you played in a previous round from their current square onto a different square (e.g. move a piece from B1 to C3). However, redeploying a piece counts as one of your actions (i.e. one of the 4 actions you have available per round).

Disaster Relief

- You can also play a Disaster Relief action in any round
- Once a Disaster Relief has been played it cannot be played again
- If you wish to 'swap' an action on the board for a DR, you cannot do this on a one-for-one basis. Instead, you must remove 4 activities from the map to place your 1 DR activity.

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Conservation Crisis
Environmental Security Research Group

STAKEHOLDER ROLES

- Each player chooses a Stakeholder Role, who they will represent.
- Each stakeholder has different objectives and requirements
- Each role can only be selected by one player (and cannot be shared by two players).
- One member of the team must represent the 'Senior Government Official'. They have final authority for approving 'which actions to play' and 'where to play these actions' at the end of each round.
- Another member of the team must represent the 'Multinational Energy Corporation'.
- It is up to each player how transparent or secretive they wish to be about their objectives, and how far they wish to compete or collaborate with other individuals.

SCORES

You can use the remainder of this page to write up the scores for each of your team members:

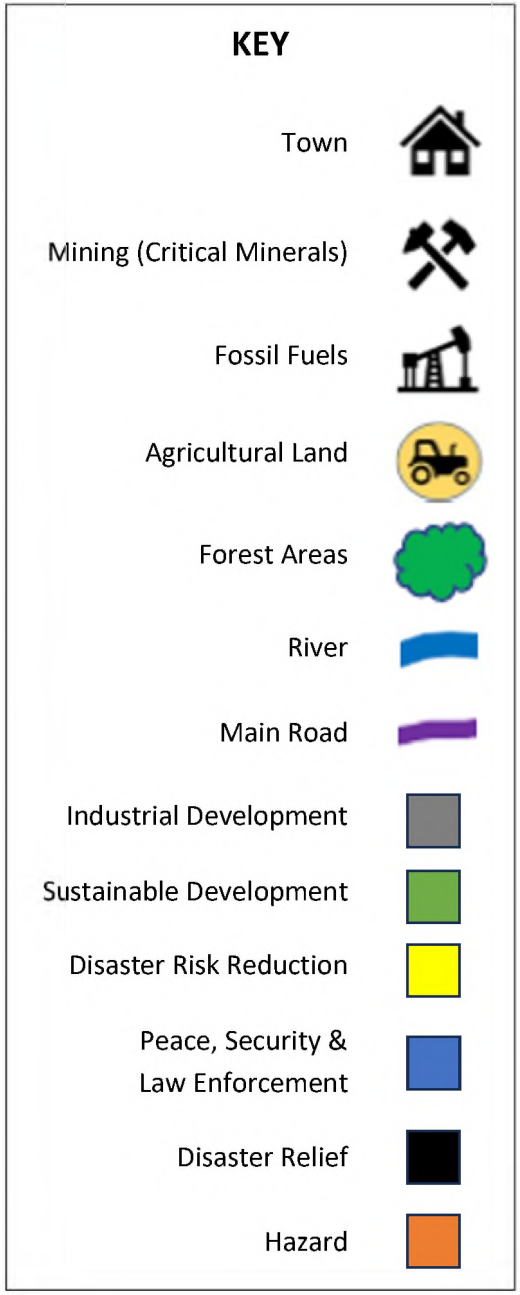
Player Names / Roles		Points Gained				Points Lost			TOTAL
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								

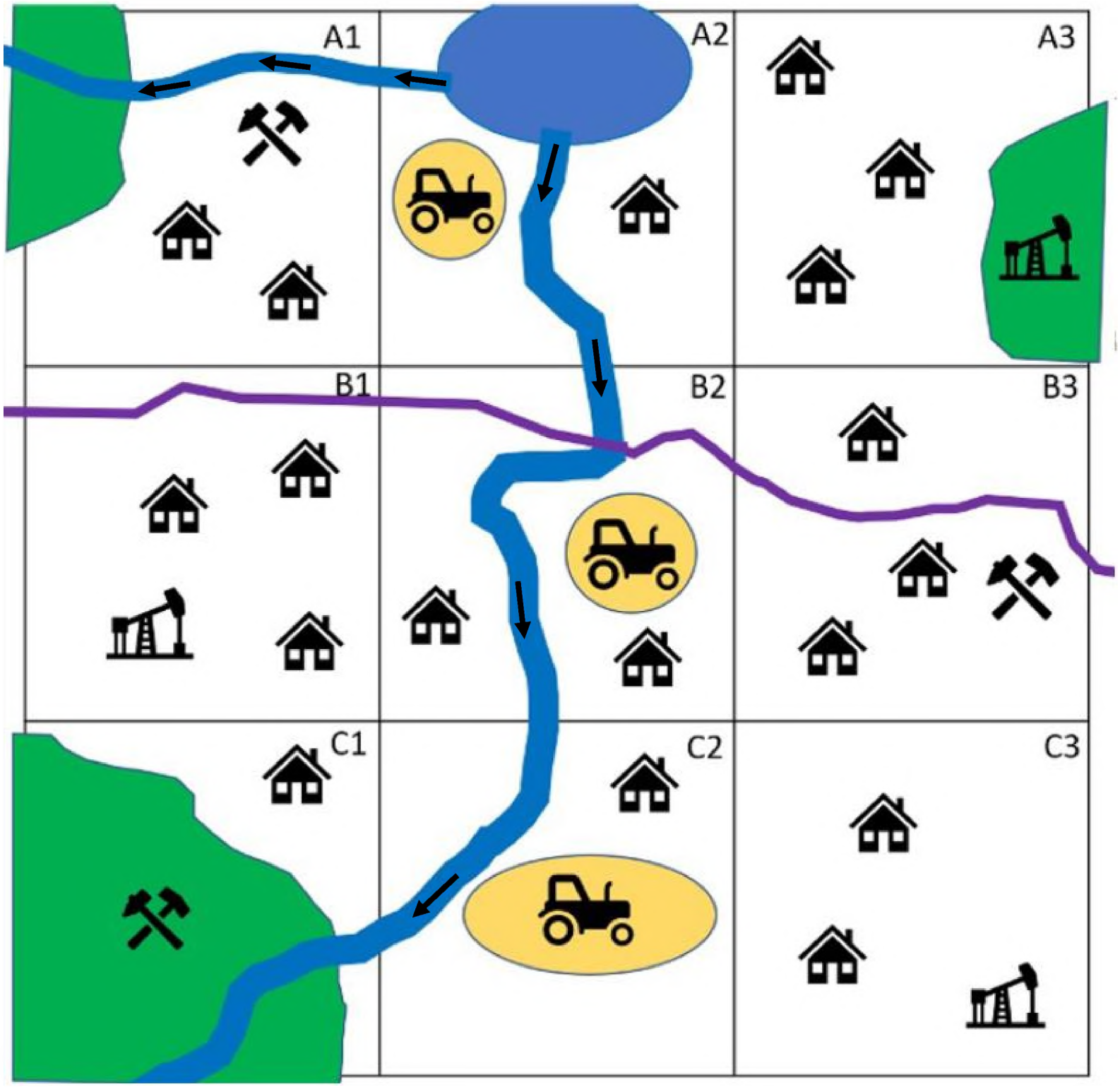
Player Names / Roles		Points Gained				Points Lost			TOTAL
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								

Player Names / Roles		Points Gained				Points Lost			TOTAL
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								

A Climate of Instability

A roleplaying game exploring stabilization in climate exacerbated scenarios





STAKEHOLDER ROLES

Please cut out the following stakeholder roles and provide a full set of these roles to each team.

Senior Government Official

As a senior government official for the province, you hold the ultimate responsibility for its stability and development. In your decisions and actions, you are driven by the two objectives. First, to ensure your political survival. Second, to lay a foundation for long-term economic stability and social order. These objectives are not mutually exclusive, but they can conflict with each other. To achieve your goals, you must engage with stakeholders including local community, NGO and private sector officials.

Above all, industrial development is critical for bolstering local prosperity and maintaining political power and influence. As such, you must actively seek to create business opportunities and stimulate the region's economy to generate immediate benefits for the population. At the same time, you need to enable stakeholders seeking to implement sustainable practices and to reduce the impact of environmental threats in your province. This is critical for the province's long-term viability and for your reputation as a forward-thinking leader. Collaboration with peacekeeping, security and law enforcement forces can also help you demonstrate a tough stance on insurgency and criminality (both for the local population and international investors). However, excessive reliance on these forces can weaken your status as a powerful leader as well as reducing your ability to collaborate with insurgent groups if they gain power and influence.

<u>At the end of the game you will:</u>
Gain:

- 3 points for each Industrial Development piece on the board
- 2 points for each Sustainable Development piece on the board
- 1 point for each Disaster Risk Reduction piece on the board
- 1 point for each PSLE piece on the board (if there are fewer than two PSLE pieces on the board in total)

Lose:

- 2 points for each square that has a Hazard in it
- 1 point for each PSLE piece on the board (if there are two or more PSLE pieces on the board in total)
- 4 points if Disaster Relief has been played at any time during the game

Multinational Agricultural Corporation

You are the Head of Regional Business Development for a multinational agricultural corporation aiming to expand industrial development in the Central Province. Your primary goal is to increase agricultural production and profitability (particularly staple crops and livestock for the international market). Although you are personally invested in enhancing sustainability and proving your ESG credentials, this represents a secondary priority. Indeed, it is worth reminding other stakeholders of the need to increase profits in order to generate the funding for Sustainable Development initiatives.

Your primary strategy should be to persuade the Senior Government Official of the importance of Industrial Development as a means of supporting economic stability (and, in turn, funding for Sustainable Development). However, you must also engage with diverse stakeholders to foster partnership and address any concerns that may derail your agenda. It is of value, for example, to support NGOs involved in enhancing medical and water security in the province, as well as local influencers who help shape public opinion. More importantly, however, you must support and advocate for physical security forces (e.g. peacekeepers and law enforcement agencies) as a means of securing your supply chains and the safety of your workers. Maintaining this breadth of partnerships can mitigate risks to your company's assets and reputation.

<u>At the end of the game you will:</u>
Gain:

- 4 points for each Industrial Development piece in an agricultural area (A2, B2, C2)
- 2 points for each Sustainable Development piece in an agricultural or water resource area (A1, A2, B2, C1, C2)
- 2 points for each Disaster Risk Reduction piece in a water resource area (A1, A2, B2, C1, C2)
- 1 point for each 'main road' area that has a PSLE piece (B1, B2, B3)

Lose:

- 1 point for each agricultural area without an Industrial Development piece (A2, B2, C2)
- 1 point for each agricultural or water resource area without a Disaster Risk Reduction piece (A1, A2, B2, C1, C2)
- 1 point for each agricultural area with one or more Hazards in it (A2, B2, C2)

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Environmental Security Research Group

Peace, Security and Law Enforcement

You are a high-ranking official coordinating peacebuilding, security and law enforcement in the province. Your primary objective is to maintain peace, stability, and security. You achieve this in two ways. First, coordinate and oversee the strategic deployment of peacekeeping, security and law enforcement, ensuring adherence to international humanitarian law and the protection of civilians. Second, facilitate dialogue and trust amongst different stakeholders and conflicting parties, as a means of enabling these stakeholders to build the foundations for long-term stability.

This role requires a careful balance. On one hand, deploying insufficient PSLE creates risks to the province's stability and your reputation as a trusted security provider. On the other hand, deploying too many PSLE can increase the risk of resentment amongst the local population and misconduct amongst your troops. Your goal, therefore, is to provide stability whilst seeking to progressively reduce the footprint of your troops. This will require you to negotiate with government and non-governmental officials, to ensure that immediate security needs are balanced with longer-term adaptation and sustainability practices. Although you must persuade other stakeholders of your strategy, remember that you must also help to facilitate dialogue between stakeholders and, as such, must retain their trust and a sense of neutrality.

<u>At the end of the game you will:</u>
Gain:
- 2 points for each Disaster Risk Reduction piece on the board
- 2 points for each Sustainable Development piece on the board
- 1 point for each PSLE piece on the board (if there are fewer than three PSLE pieces on the board in total)

Lose:
- 2 points for each PSLE piece on the board (if there are three or more PSLE pieces on the board in total)
- 1 point for each Hazard on the board

Forestry Conservation NGO

You work for a non-governmental organization focused on preserving fragile forest ecosystems. Your primary goal is to protect the Central Province's forested areas from illegal logging, poaching and other harmful human activities. At the same time, you need to ensure that local communities benefit from the resources of the forests, which are intricately tied to local economic practices, health, wellbeing, and social identity. In line with this, you have been working hard to promote sustainable practices, such as responsible harvesting and reforestation efforts that benefit locals without harming the forest ecosystem. However, your agenda faces significant challenges. For example, it is possible for locals to make greater short-term profit through the kinds of industrial development that comes from over-intensive land use. Furthermore, the presence of local criminal and insurgent gangs creates insecurity for local communities working within the province's forests.

As such, you need to balance your emphasis on ecosystem preservation and sustainable local development, with the need to ensure the economic and physical security of the local conservationists that you oversee. This will require you to work closely with local leaders and community members to ensure that their needs are met while still prioritizing conservation efforts. You will also need to engage with multinational corporations to encourage them to adopt sustainable practices and minimize their impact on the environment. Finally, you will need to collaborate with peacekeepers and law enforcement to prevent illegal activities and protect the area from external threats (whilst ensuring that locals do not become reliant upon such protection).

<u>At the end of the game you will:</u>
Gain:
- 3 points for each Sustainable Development piece in a forest area (A1, A3, C1)
- 2 points for each Disaster Risk Reduction piece in a forest area (A1, A3, C1)
- 1 point for each forest area with one or more PSLE pieces (if there are fewer than three PSLE pieces in forest areas in total) (A1, A3, C1)

Lose:
- 1 point for each forest area with a PSLE piece (if there are three or more PSLE pieces in forest areas in total) (A1, A3, C1)
- 1 point for each Hazard in a forest area (A1, A3, C1)
- 4 points if Industrial Development pieces are present in any forest area (A1, A3, C1)

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Local Influencer (e.g. Elder / Religious Leader)

More than any other stakeholder, you feel the difficulties and burdens of leading and representing your community. Technological and economic modernization along with increasing access to global media are causing rapid shifts in community dynamics. The local networks, agreements and values that have historically supported community cohesion and resilience are rapidly losing their influence. You face a difficult balancing act, supporting opportunities for your community to thrive economically and socially in the face of change, whilst seeking to maintain local identity, heritage and values.

To enable this, you must strive to be the key intermediary and gatekeeper for external stakeholders. You must build strong relationships with all stakeholders, whilst pushing back against actions that threaten your community's economic and social independence and environmental resilience. You must work with industrial stakeholders to bring investment and development to the area, but only if they are respectful of the local culture and committed to sustainable practices. NGOs are also welcome, but they must respect local mediation systems rather than relying on PSLE. You know that PSLE can help maintain stability, but you are wary of resentment, dependencies and corruption that can stem from such systems. Remember, you were here before everyone else, and you will still be responsible for your community after they have all left.

<u>At the end of the game you will:</u>
Gain:
- 2 points for each Sustainable Development piece on the board
- 2 points for each Disaster Risk Reduction piece on the board
- 1 point for each Industrial Development piece on the board (if there are fewer than three Industrial Development pieces on the board in total)
- 1 point for each PSLE piece on the board (if there are fewer than two PSLE pieces on the board in total)

Lose:
- 1 point for each PSLE piece on the board (if there are two or more PSLE pieces on the board in total)
- 1 point for each Industrial Development piece on the board (if there are three or more Industrial Development pieces on the board in total)
- 1 point for each square on the board that contains one or more hazards

Humanitarian Healthcare Charity

You are the Country Lead for a humanitarian healthcare charity, dedicated to enhancing healthcare policy and infrastructure in countries with systemic health risks. Your primary goal is to support sustainable healthcare and resilient systems for disaster response (e.g. reducing hazardous pollutants and transmission vectors for zoonotic diseases, bolstering local medical skills, and expanding medical treatment centres). You face significant challenges, including limited resources, logistical obstacles, and security risks. To achieve your goals you should collaborate with local government leaders, community leaders and other NGOs to drive Sustainable Development and Disaster Risk Reduction activities. Although you actively wish to avoid a state of crisis, you understand that large scale Disaster Relief actions can enhance international publicity and political pressure for Sustainable Development and Disaster Risk Reduction activities. Try to capitalise upon such interventions if they occur.

Your relationship with PSLE and private sector actors is more complex. PSLE may be necessary to provide stability for your work in the short term. However, stability through militarization comes with significant risks for longer-term healthcare and wellbeing. It may be necessary to collaborate with the industrial stakeholders, to gain funding for projects and coordinate worker healthcare initiatives. However, over-exploitation of natural resources creates substantial threats to health and wellbeing (e.g. through pollutants, biocapacity loss, worker conditions, and cultural losses). As such, your engagement with such stakeholders must balance the value of short-term engagement with the risks for long-term healthcare.

<u>At the end of the game you will:</u>
Gain:
- 2 points for each Sustainable Development piece on the board
- 2 points for each Disaster Risk Reduction piece on the board
- 1 point for each Disaster Relief piece on the board

Lose:
- 1 point for each fossil fuel or mining area that has an Industrial Development piece on it (A1, A3, B1, B3, C1, C3)
- 1 point for each PSLE piece on the board (if there are three or more PSLE pieces on the board in total)
- 1 point for each Hazard on the board

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Multinational Energy Corporation

You are a business development official representing a multinational energy company operating in the Central Province. Your portfolio is focused on fossil fuel extraction. However, you are seeking to increase access to critical minerals to support your renewable energy portfolio. Your primary responsibility is to gain the province's resources to generate profit for the company.

To achieve this, you must highlight the importance of Industrial Development for trade and stability, and provide financial capital for Sustainable Development and Disaster Risk Reduction. Your focus should be on influencing Senior Government Officials and other Local Influencers. However, you must also persuade other stakeholders who threaten your agenda. This could include: highlighting your ESG credentials and desire for a sustainable transition to humanitarian organisations and NGOs; and, showing openness to funding sustainable initiatives with the profits from your Industrial Developments. You must work closely with physical security forces (e.g. peacekeepers and police) to maintain supply routes and worker safety. Remember, you create the money required for development, but you must manage negative perceptions around your impact.

<u>At the end of the game you will:</u>
Gain:
- 4 points per Industrial Development activity played in fossil fuel or mining areas (A1, A3, B1, B3, C1, C3)
- 2 points per Disaster Risk Reduction activity played in fossil fuel or mining areas with Industrial Development pieces (A1, A3, B1, B3, C1, C3)
- 2 points per Sustainable Development activity played in fossil fuel or mining areas with Industrial Development pieces (A1, A3, B1, B3, C1, C3)
- 1 point if PSLE are situated on all squares with a 'main road' (B1, B2, B3)

Lose:
- 1 point for each fossil fuel or mining area that has a Hazard piece in it (A1, A3, B1, B3, C1, C3)
- 2 points for each fossil fuel or mining area without an Industrial Development activity (A1, A3, B1, B3, C1, C3)
- 3 points if none of the squares with a 'main road' have a PSLE (B1, B2, B3)

Water Aid Agency

You are the local Director of a Water Aid Agency, responsible for overseeing water resource management and providing access to safe and clean water in the Central Province. Your primary objective is to improve water and sanitation infrastructure, ensuring that communities have reliable access to clean water for drinking, hygiene, and agriculture.

You must work hard to promote sustainable practices and nature-based adaptation initiatives that reduce the risk of environmental disasters around water sources. This includes enhancing water harvesting and irrigation systems, river and agricultural biodiversity, and waste systems to reduce water pollution. Your work provides significant benefits for local health and small businesses (especially smallholder farms). Unfortunately, these activities are challenged by industrialised agricultural practices (which can lead to over-intensive land and water use) and mining for natural resources (which can undermine natural water tables, release pollutants into water systems, and reduce local biodiversity). As such, you need to work closely with local leaders and multinational corporations to ensure that they are prioritizing sustainable development and disaster risk reduction activities. At times, you may also need to work with PSLE to support inter-group conflict and mediation between locals that are dependent on water resources for economic survival (e.g. farmers, herders, etc).

<u>At the end of the game you will:</u>
Gain:
- 3 points for each water resource area that has Sustainable Development activity (A1, A2, B2, C2, C1)
- 2 points for each water resource area that has Disaster Risk Reduction activity (A1, A2, B2, C2, C1)
- 1 point for each water resource area with a PSLE piece (if there are fewer than two PSLE pieces in water resource areas in total) (A1, A2, B2, C2, C1)
- 1 point for each water resource area with an Industrial Development piece (if there are fewer than two Industrial Development pieces in water resource areas in total) (A1, A2, B2, C2, C1)

Lose:
- 2 points for each water resource area with a PSLE piece (if there are two or more PSLE in water resource areas in total) (A1, A2, B2, C2, C1)
- 1 point for each water resource area with an Industrial Development piece (if there are two or more Industrial Development pieces in water resource areas in total) (A1, A2, B2, C2, C1)
- 1 point for each Hazard in a water resource area (A1, A2, B2, C2, C1)

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APPENDIX 1: EVENT CARDS (TO BE USED WHEN PLAYING THE GAME MULTIPLE TIMES)

If you play the game for a 'second' or 'nth' time, please print and cut these event cards (one sheet per team).

Round 1 • Lack of clean water access can inhibit local development. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there	**Round 2** • Plastic and chemical waste is growing in unmanaged industrial areas. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there	**Round 3** • Major rivers are at higher risk of flooding. Add a Hazard to A2, B2 and C1 and C2 unless they have a disaster risk reduction	**Round 4** • Deforestation for fuel and grazing land increases the risk of natural disasters. Add 2 Hazards on A1, A3 and C1 unless they have a disaster risk reduction	**Round 5** • Climate change increases the risk of natural disasters. Add a Hazard to any square on the board without a disaster risk reduction
Round 1 •• Adversary nations wish to create instability by training insurgents in forests. Add a Hazard on A1, A3 and C1 unless you have activities there	**Round 2** •• Insurgents are using forests as bases for their operations. Add a Hazard on A1, A3 and C1 unless you have activities there	**Round 3** •• Keeping roads open is key to keeping goods and people moving. Add a Hazard to B1, B2, and B3 unless you have activities there	**Round 4** •• Rivers are at higher risk of flooding. Add 2 Hazards to A1, B1, B2, C1 and C2 unless they have disaster risk reduction	**Round 5** •• Environmental insecurity increases the risk of inter-group violence. Add a Hazard to any square on the board without activity in it
Round 1 ⋰ Unsustainable industrial farming is increasing water stress. Add a Hazard on A2, B2 and C2 if they have industrial activity	**Round 2** ⋰ Uncontrolled mining is exacerbating water and biodiversity loss. Add a Hazard to A1, B3 and C1 if they have industrial activity	**Round 3** ⋰ Oil exploration contributes to global heating. Add a Hazard to A3, B1 and C3 if they have industrial activity	**Round 4** ⋰ Livestock farmers seek to offset losses from market instability by using unregulated pastures for grazing. Add a Hazard to any square without activity in it	**Round 5** ⋰ Areas without a strong water supply are at higher risk. Add 2 Hazards to A3, B1, B3 and C3 unless you have activities there
Round 1 ⁘ Unemployment enhances social inequity and creates opportunities for insurgent recruitment. Add a Hazard on C1, C3 and A2 unless you have activities there	**Round 2** ⁘ If the main supply route is not maintained and protected, the whole province will suffer. Add a Hazard on B1, B2 and B3 unless you have activities there	**Round 3** ⁘ Forests need to be managed to avoid exploitation. Add a Hazard to A1, A3, and C1 unless they have a sustainable development	**Round 4** ⁘ Natural disasters can block roads, preventing goods and people moving. Add a Hazard to B1, B2, and B3 unless they have disaster risk reduction or PSLE deployed	**Round 5** ⁘ Burning fossil fuels drives average global temperatures towards 3°C. Add 1 Hazard to every square on the board if you have industrial activity in A3, B1 or C3
Round 1 ⁙ Industrial activity along the road provides funds for infrastructure. Remove 1 Hazard from any square on the board for each industrial activity you have played in B1, B2 or B3	**Round 2** ⁙ Resource equity in densely populated areas reduces the risk of violence. Remove 1 Hazard from A3, B1, and B3 if you have played a sustainable development there	**Round 3** ⁙ PSLE help to reduce the threat from insurgent groups. Remove 1 Hazard if you have played PSLE in A1, A3 and C1	**Round 4** ⁙ Armed groups are using road checkpoints to raise funds for their activities. Remove 1 Hazard from any square on the board for each PSLE you have played in B1, B2 or B3	**Round 5** ⁙ Sustainable health, energy, water and food infrastructures have enabled greater local resilience. Remove 1 Hazard from any square on the board if you have played 4 sustainable developments
Round 1 ⁞ It is vital to protect transport infrastructures for trade and logistics. Remove 1 Hazard from any square on the board if you have a PSLE deployed in B1, B2 or B3	**Round 2** ⁞ Industrial innovation is improving crop yields. Remove 1 Hazard from any square on the board for each industrial activity you have played in A2, B2 or C2	**Round 3** ⁞ Too many foreign soldiers increases local resentment. Add 1 Hazard to any square with a PSLE in it if you have played 4 or more PSLE in total	**Round 4** ⁞ Mining of rare earths has enhanced trade and renewable energy. Remove 1 Hazard from any square on the board for each industrial activity you have played in A1, B3 or C1	**Round 5** ⁞ Industrial activity has generated funds for local resilience measures. Remove 1 Hazard from any square on the board if you have played 4 industrial activities

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If you wish to create your own description for the events (or if you wish to provide players with more than six possible events per round), then you are welcome to edit the following cards to meet your requirements.

Round 1 [DESCRIPTION OF YOUR CHOICE]. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Add 1 Hazard to A3, B1, B3 and C3 unless you have activities there	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to A2, B2 and C1 and C2 unless they have a disaster risk reduction	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Add 2 Hazards on A1, A3 and C1 unless they have a disaster risk reduction	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to any square on the board without a disaster risk reduction
Round 1 [DESCRIPTION OF YOUR CHOICE]. Add a Hazard on A1, A3 and C1 unless you have activities there	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard on A1, A3 and C1 unless you have activities there	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to B1, B2, and B3 unless you have activities there	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Add 2 Hazards to A1, B1, B2, C1 and C2 unless they have disaster risk reduction	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to any square on the board without activity in it
Round 1 [DESCRIPTION OF YOUR CHOICE]. Add a Hazard on A2, B2 and C2 if they have industrial activity	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to A1, B3 and C1 if they have industrial activity	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to A3, B1 and C3 if they have industrial activity	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to any square without activity in it	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Add 2 Hazards to A3, B1, B3 and C3 unless you have activities there
Round 1 [DESCRIPTION OF YOUR CHOICE]. Add a Hazard on C1, C3 and A2 unless you have activities there	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard on B1, B2 and B3 unless you have activities there	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to A1, A3, and C1 unless they have a sustainable development	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Add a Hazard to B1, B2, and B3 unless they have disaster risk reduction or PSLE deployed	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Add 1 Hazard to every square on the board if you have industrial activity in A3, B1 or C3
Round 1 [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board for each industrial activity you have played in B1, B2 or B3	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from A3, B1, and B3 if you have played a sustainable development there	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard if you have played PSLE in A1, A3 and C1	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board for each PSLE you have played in B1, B2 or B3	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board if you have played 4 sustainable developments
Round 1 [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board if you have a PSLE deployed in B1, B2 or B3	**Round 2** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board for each industrial activity you have played in A2, B2 or C2	**Round 3** [DESCRIPTION OF YOUR CHOICE]. Add 1 Hazard to any square with a PSLE in it if you have played 4 or more PSLE in total	**Round 4** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board for each industrial activity you have played in A1, B3 or C1	**Round 5** [DESCRIPTION OF YOUR CHOICE]. Remove 1 Hazard from any square on the board if you have played 4 industrial activities

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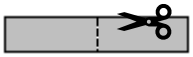
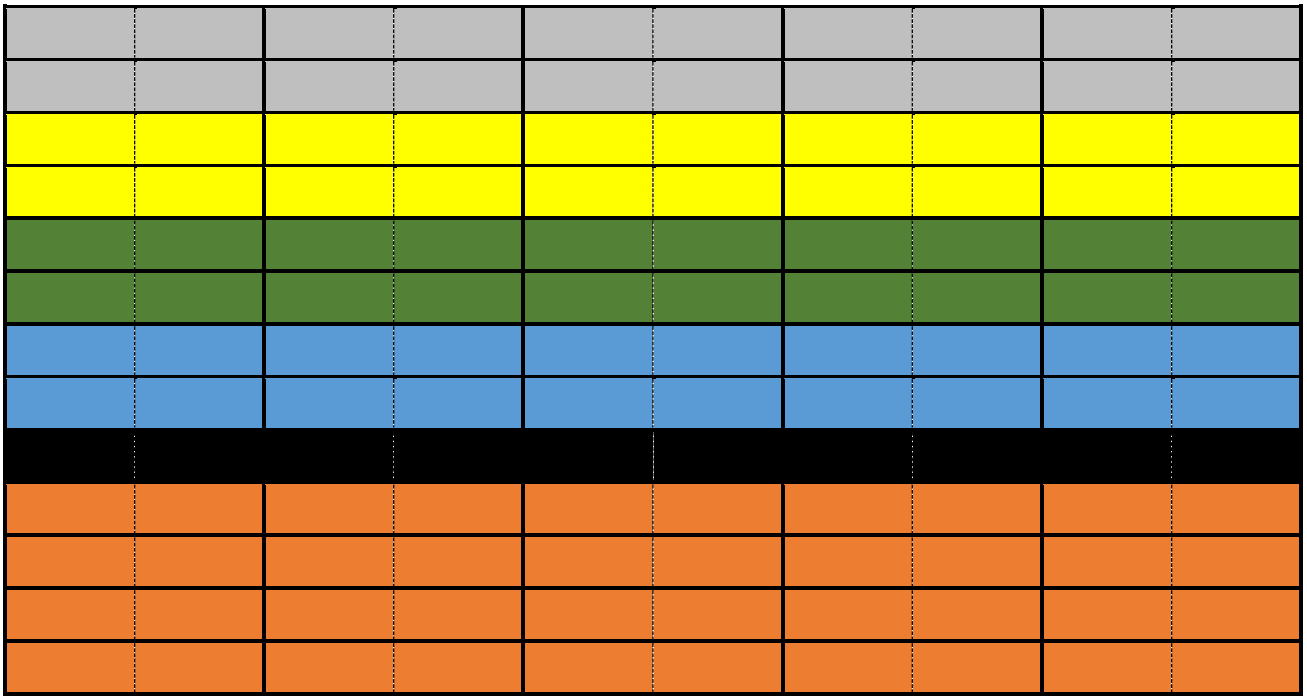
APPENDIX 2: BOARD PIECES

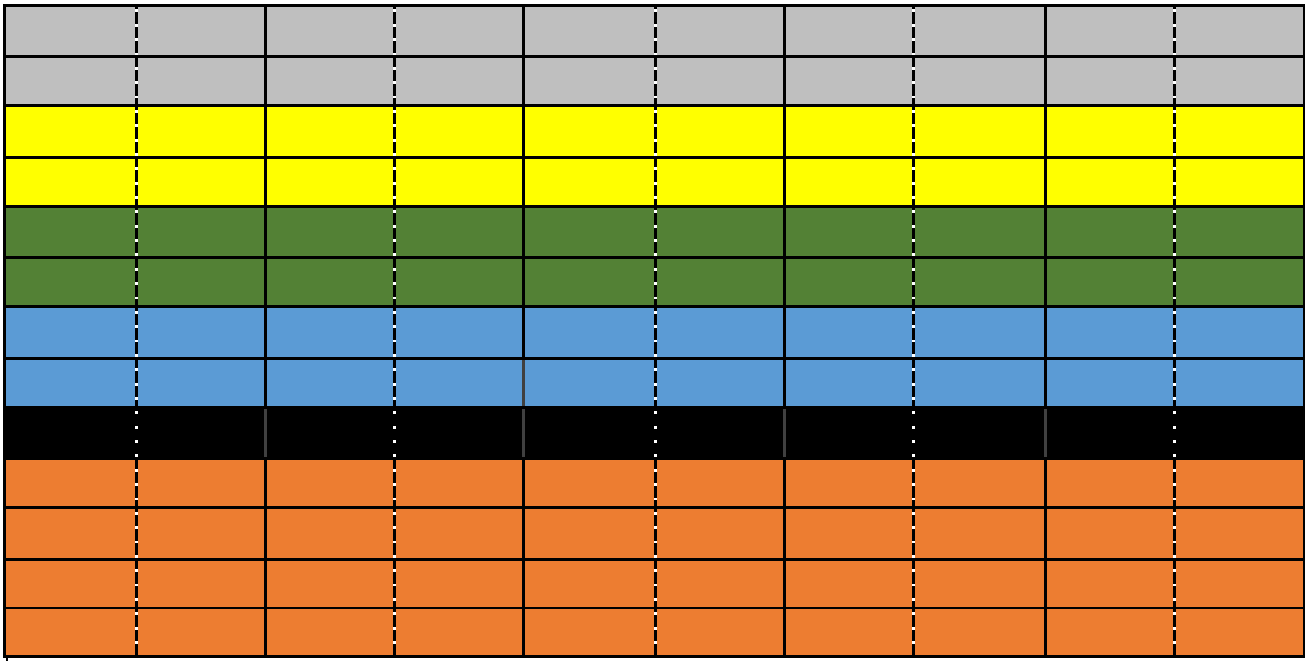
If you do not have any physical pieces with which to play the game, you can print and cut out the following coloured pieces for each team.

1. Cut along the 'solid' lines (e.g. )
2. Fold along the 'dotted' lines (e.g. )
3. The piece should now be a triangular truss that can stand up on two legs (e.g. )

Team 1:



Team 2:



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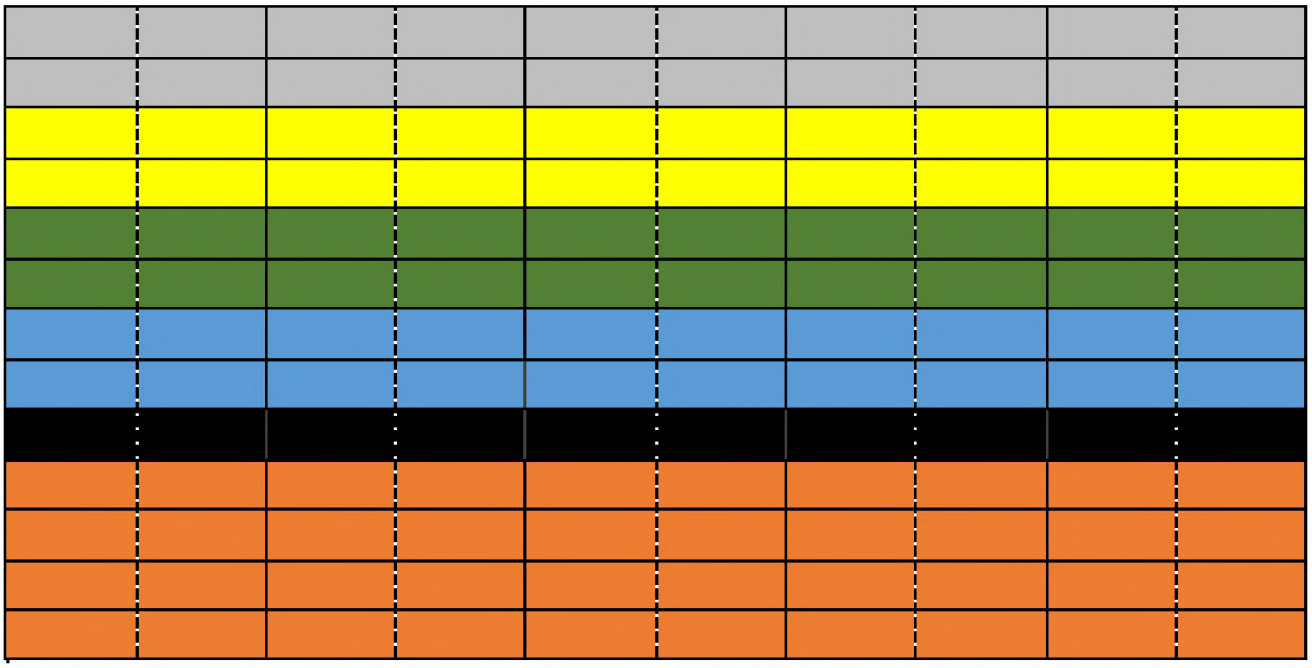

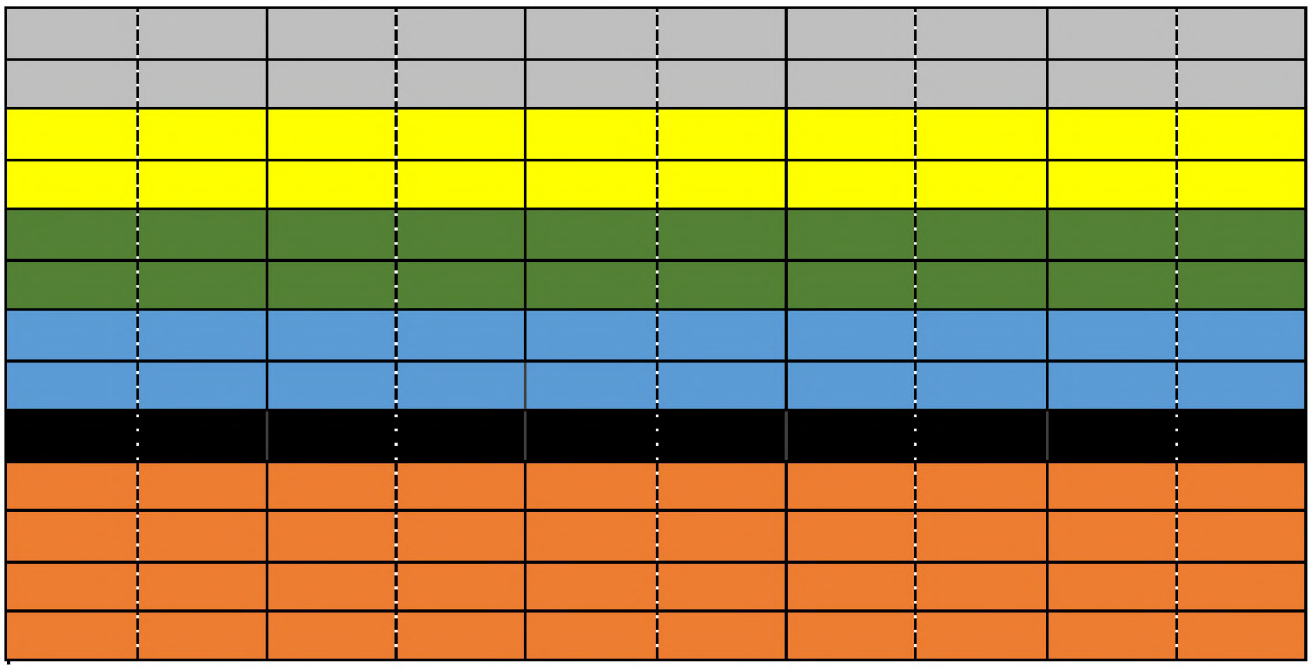

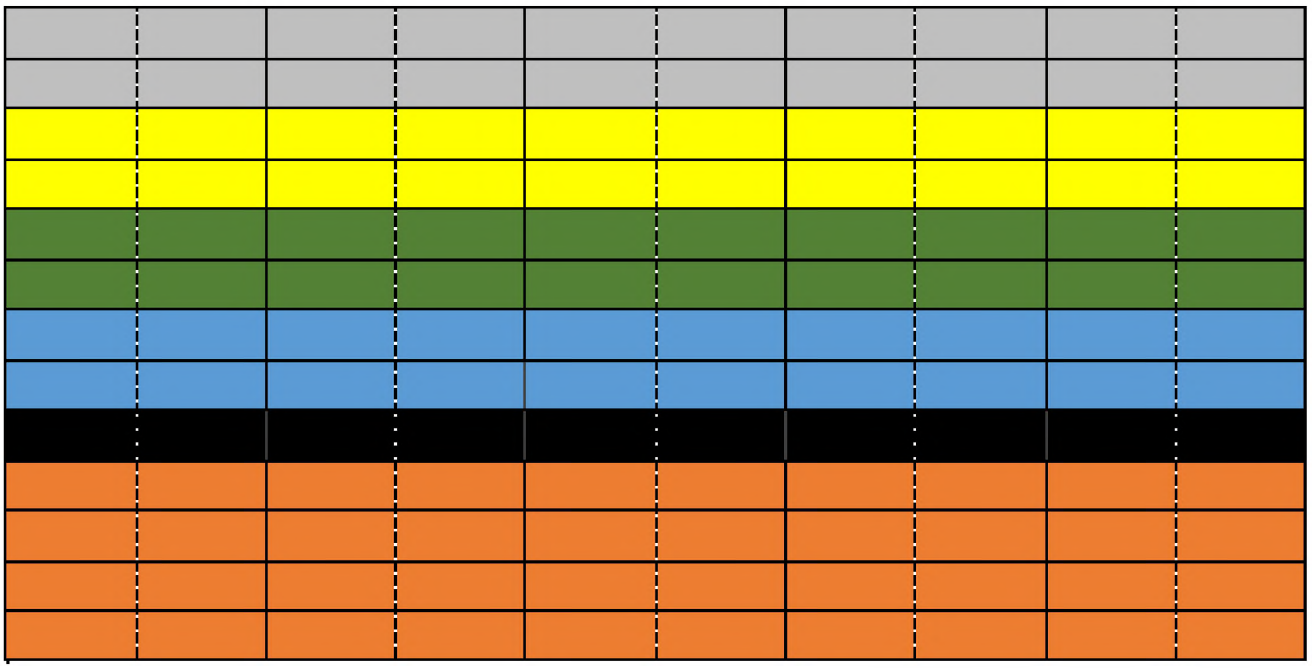

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APPENDIX 3: TEMPLATES TO CREATE ALTERNATIVE STAKEHOLDER ROLES

The following templates can be used by facilitators if they wish to add different 'stakeholders' to the game. Please remember that each team still needs to have one player representing the 'Senior Government Official'.

Insert the Type of Organisation

Insert a 2-3 paragraph description of the stakeholder, which includes:

- Primary goal of stakeholder (and secondary goals if relevant)
- Their priorities for specific kinds of activities (e.g. sustainable development, disaster risk reduction, etc)
- Their relationship with other stakeholders

<u>After the Event Cards have been accounted for, at the end of each round you will:</u>

- Insert the number of points to be gained or lost for playing specific activities.
- Try to achieve a potential gain of around '7 points', spread across three or more different types of activity

<u>After the Event Cards have been accounted for, at the end of the final round you will:</u>

- Insert the number of points to be gained or lost at the end of the game, based on the pieces that remain on the map.
- Try to achieve a potential loss of around '20 points' in total, spread across two or more types of activity

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Created in collaboration with:
Conservation Crisis
Environmental Security Research Group

Pre-Game Participant Questionnaire

We are researching the impact and value of roleplaying in security education.

We would be grateful if you could complete a 5 minute pre-game survey.

This is entirely voluntary.

MODREC Ref: 2223/MODREC/23

A Climate of Instability

A roleplaying game exploring stabilization in climate exacerbated scenarios

Created in collaboration with:

CONSERVATION CRISIS

ESRG

Operational Briefing

You are working in the central province of the country of Badilisha. It faces significant climate-induced risks. The province also has an array of exploitable agricultural, mineral and oil resources, sought after locally and internationally.

It is ‘highly likely’ that average temperatures will increase, leading to more frequent and stronger environmental disasters (including flooding, landslides and drought). It is 'likely' that insurgents will seek to establish bases in concealed forest areas and exploit resources for their campaigns. They may attempt to recruit poor communities who don’t feel supported by the government. It is 'highly likely' that international stakeholders will try to gain strategic advantage and access to resources through direct and proxy actions. All of these variables could impact on stability in the area.

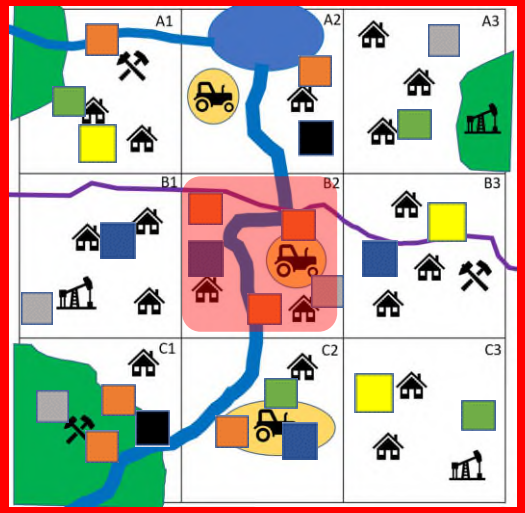
You are responsible for working with other stakeholders to decide where and when to deploy your limited resources over the next 25 years, to enable development and reduce crises. You are able to deploy five different types of activity to achieve this.

What is the objective of the game?

Try and prevent a ‘climate crisis’ occurring within any square/zone of your province.

A climate crisis is when you have 3 Hazards [■] located within any zone on your map. If you have 3 hazards on any square on your map by the end of the game *the entire team has failed*.

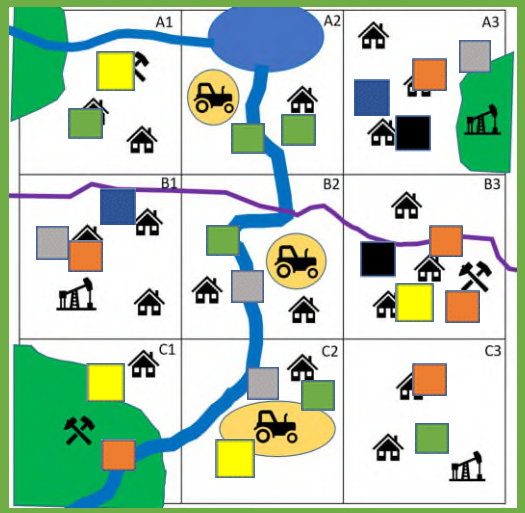
If you don't have a crisis on your map, then the member of your team with the highest number of points wins.



You have failed!

There are 3 hazards in zone B2.

You are facing a climate crisis and so your entire team loses.



You have succeeded!

None of your zones have 3 or more hazards.

Find out which member of your team has won!

Actions Available (How to Avoid a Crisis)

- **INDUSTRIAL DEVELOPMENT (ID)**: ID may include intensive agriculture, industrial resource extraction, and economic liberalisation. CD is a **double-edged sword**. The province has agricultural land and fossil fuels that **can generate funds for development**. Its critical minerals can help global efforts to fight climate change. However, **unsustainable industrial activity is likely to cause harm over time** (e.g. reshaping migration patterns, creating geographical wealth inequities, and increasing the risk of Hazards).

- **SUSTAINABLE DEVELOPMENT (SD):** SD supports socially and environmentally equitable resource use (e.g. supporting indigenous knowledge sharing, local enterprise, health and education infrastructures, clean water and renewable energy). It is likely that SD will **help local populations adapt to climate change** and build livelihoods to **alleviate poverty**. SD is unlikely to have negative consequences on the environment. However, it **can take time to reap the benefits** of this action and it **cannot solve all the challenges** you will face.

- **DISASTER RISK REDUCTION (DRR)**: DRR **enhances resilience against environmental hazards** (e.g. implementing systems for alerting populations to disasters, enabling nature-based solutions for flood and drought, mitigating waste and pollution risks from commercial activities, enhancing local community cohesion and agreements). DRR is highly likely to **reduce the impact of climate hazards**. These hazards will be more common in the mid-term future but may also occur in the short-term future.

- **PEACE, SECURITY & LAW ENFORCEMENT (PSLE)**: PSLE can **help prevent attacks, racketeering and recruitment** by insurgent groups, and **enable economic development** (i.e. by ensuring security of workers and key supply routes). However, having **too many PSD for too long poses risks**. Over time is likely to cause resentment among locals and can increase the risk of individual personnel engaging in corrupt, violent or humiliating activities.

- **DISASTER RELIEF (DR)**: DR can be played on any square to **remove Hazards from that square**. If a square has 1-2 Hazards, DR will remove all these Hazards. If a square has 3 Hazards or more, DR will only remove 1 Hazard from that square. DR **can only be played twice in the entire game**. If you wish to 'swap' an action on the board for a DR action, you need to remove 4 actions from the map.

Gameplay

There are up to 5 rounds, each representing 5 years:

During each round

Each team can play up to 4 actions. Including:

- Place a new action on the board
- Move an existing action from one square to another
- Swap an action with one already on the board

They have 5 mins to play these.

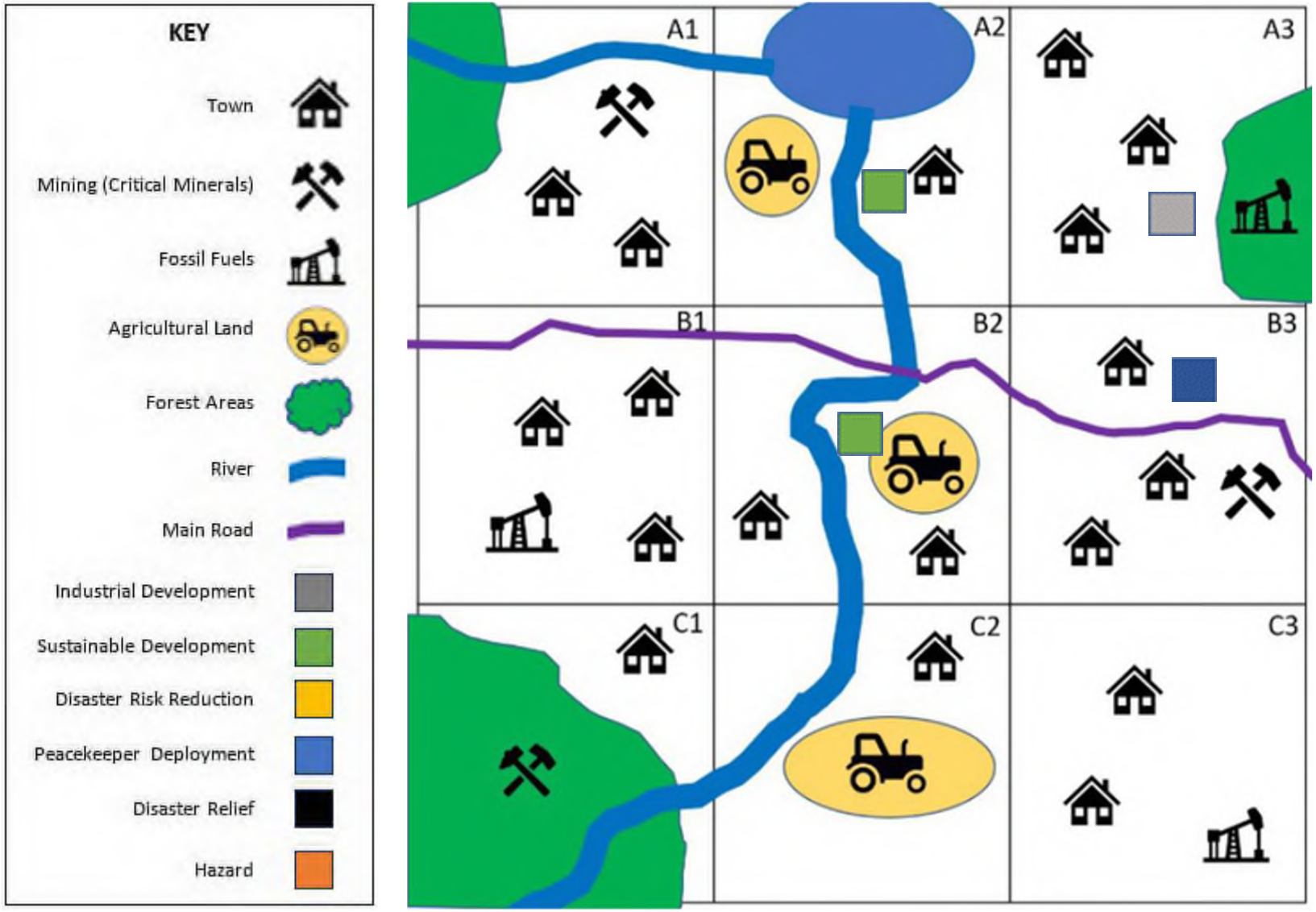
End of each round

1. 3x Event Cards will be revealed
2. Your actions during the previous round(s):
   - Will NOT affect what events take place
   - WILL affect how badly these events affect your board
3. Teams then add/remove Hazards based on the events

End of the game

1. Players check:
   - Whether their team managed to avert a climate crisis
   - What their 'individual' player scores are
2. Players then discuss the results of different teams/individuals

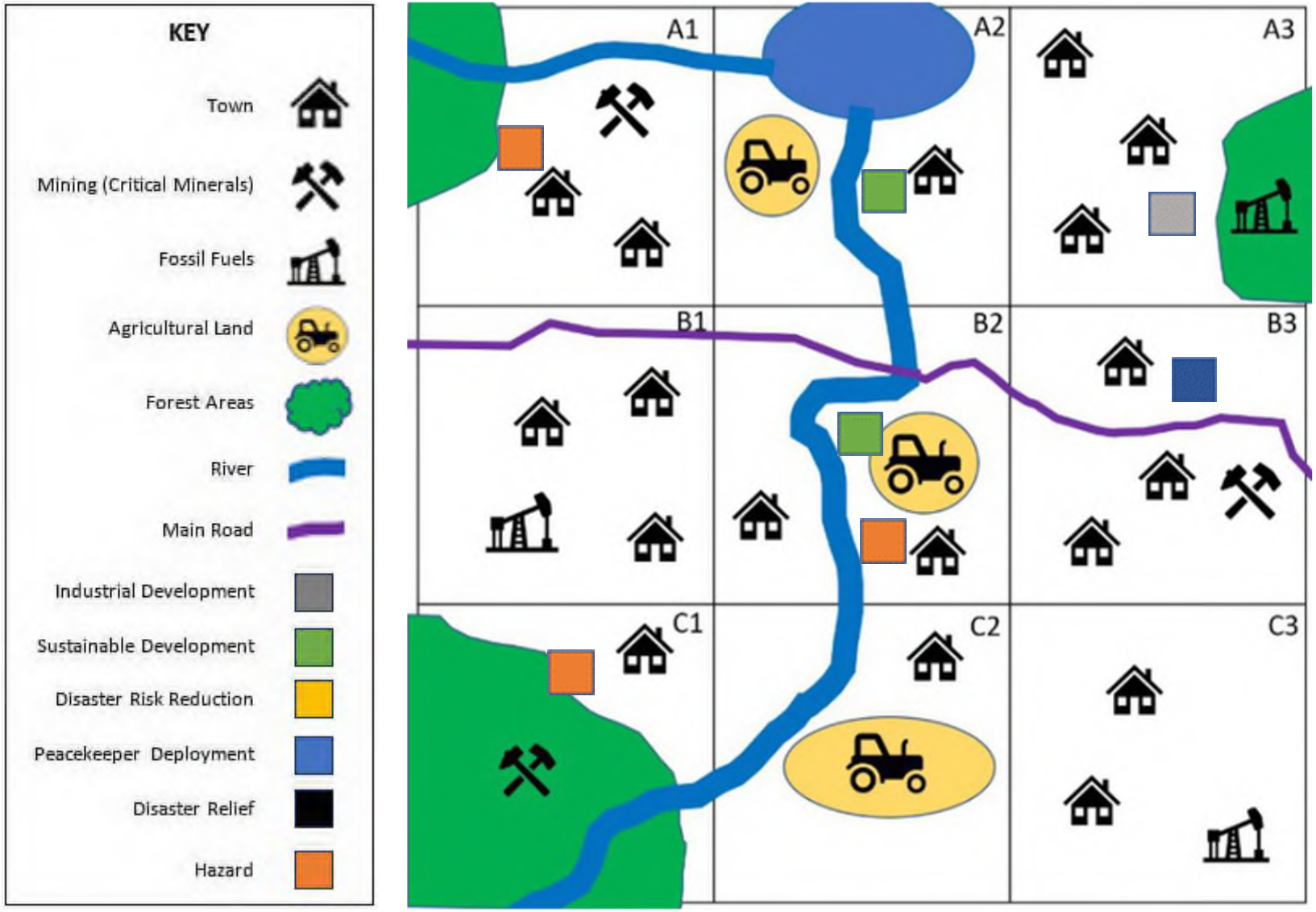
Example Game



Round 1 *(0-5 years)*

<u>During:</u> Placed 1x PSLE deployment,
2x sustainable developments,
1x industrial development,

Example Game

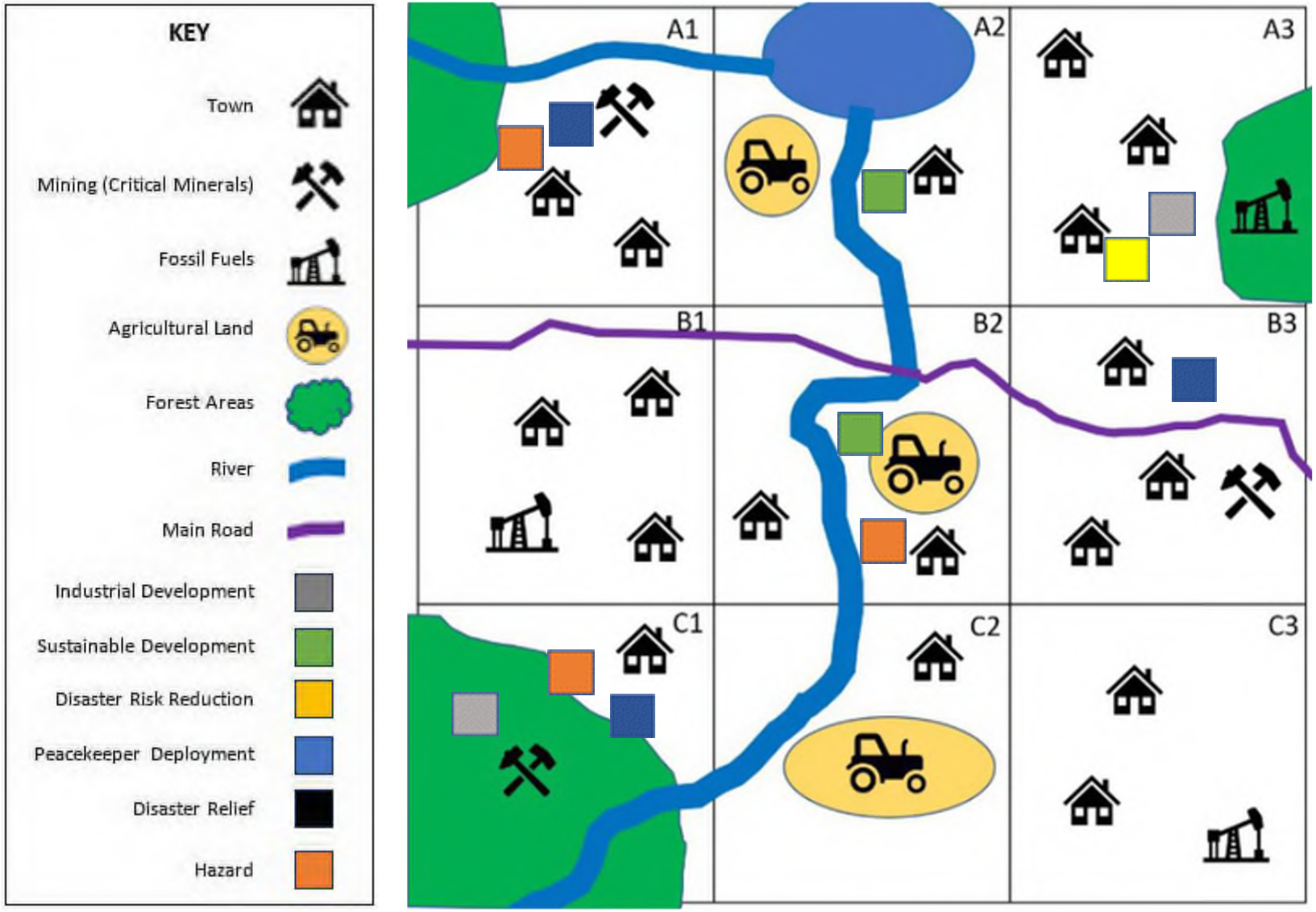


Round 1 *(0-5 years)*

During: Placed 1x PSLE deployment,
2x sustainable developments,
1x industrial development,

After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

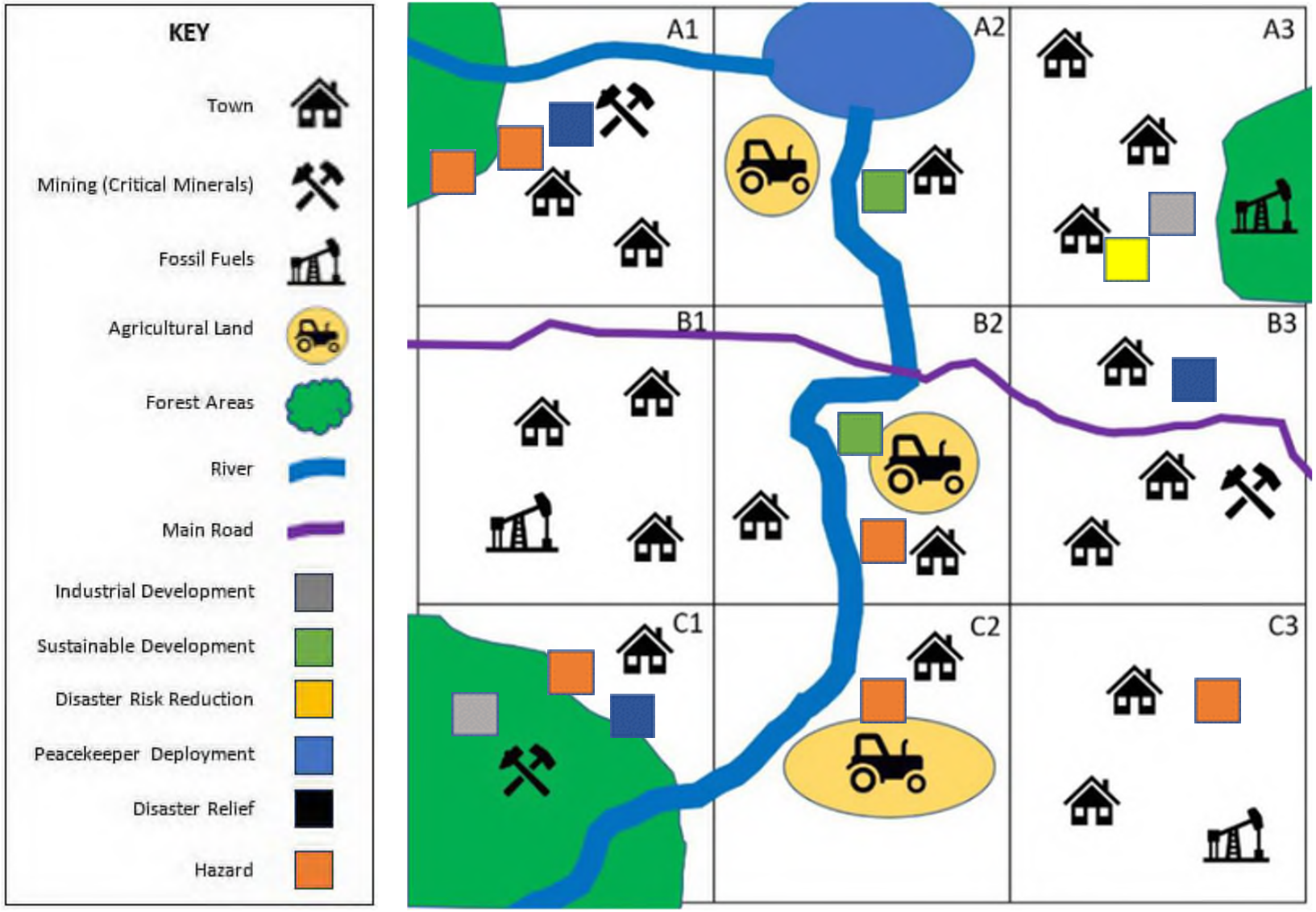
Example Game



Round 1 *(0-5 years)*
During: Placed 1x PSLE deployment,
2x sustainable developments,
1x industrial development,
After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

Round 2 *(5-10 years)*
During: Placed 2x PSLE deployment,
1x disaster risk reduction,
1x industrial development

Example Game



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1x industrial development,

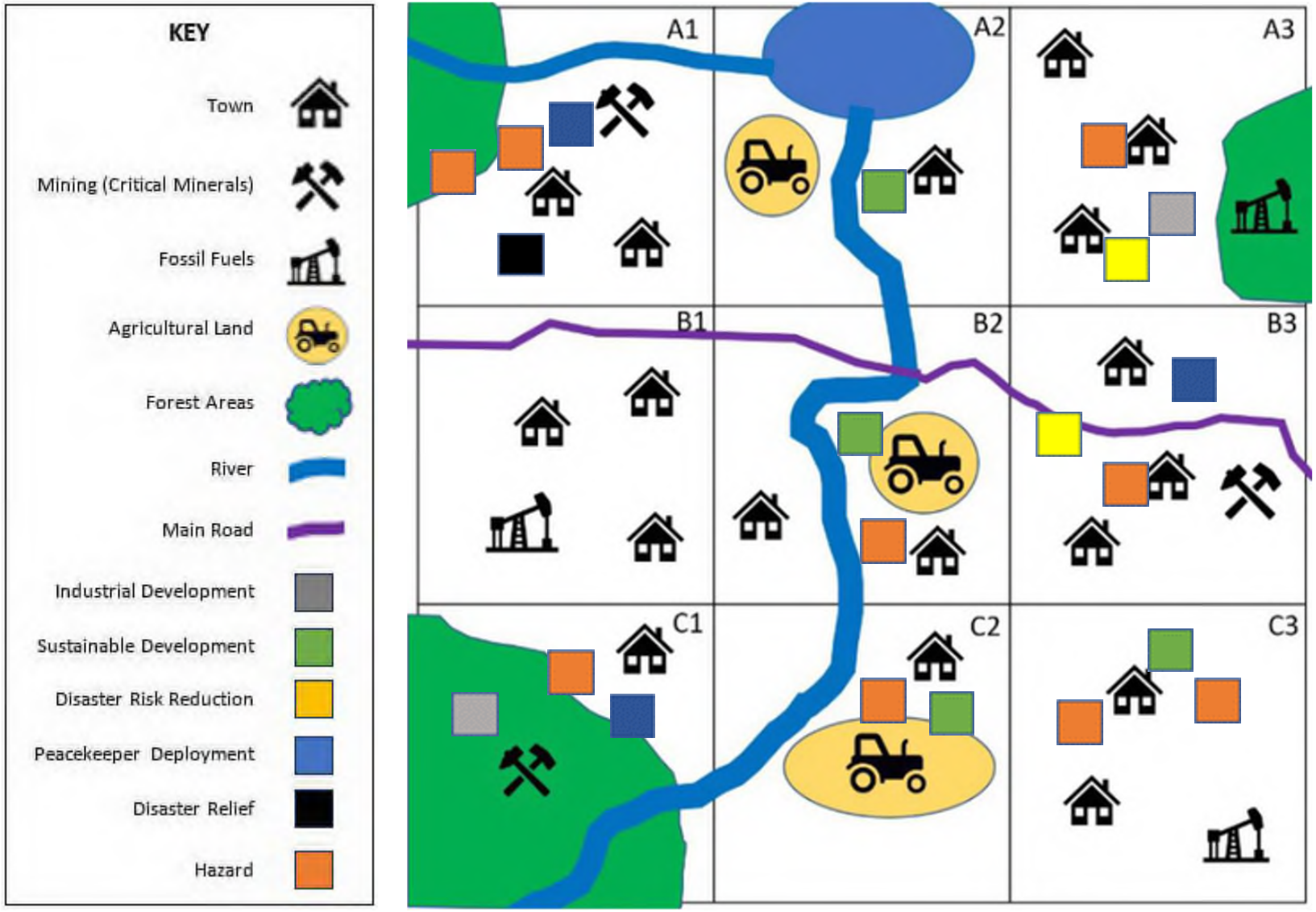
After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

Round 2 *(5-10 years)*

During: Placed 2x PSLE deployment,
1x disaster risk reduction,
1x industrial development

After: 3x hazard events (e.g. mining accident, drought, deforestation)

Example Game



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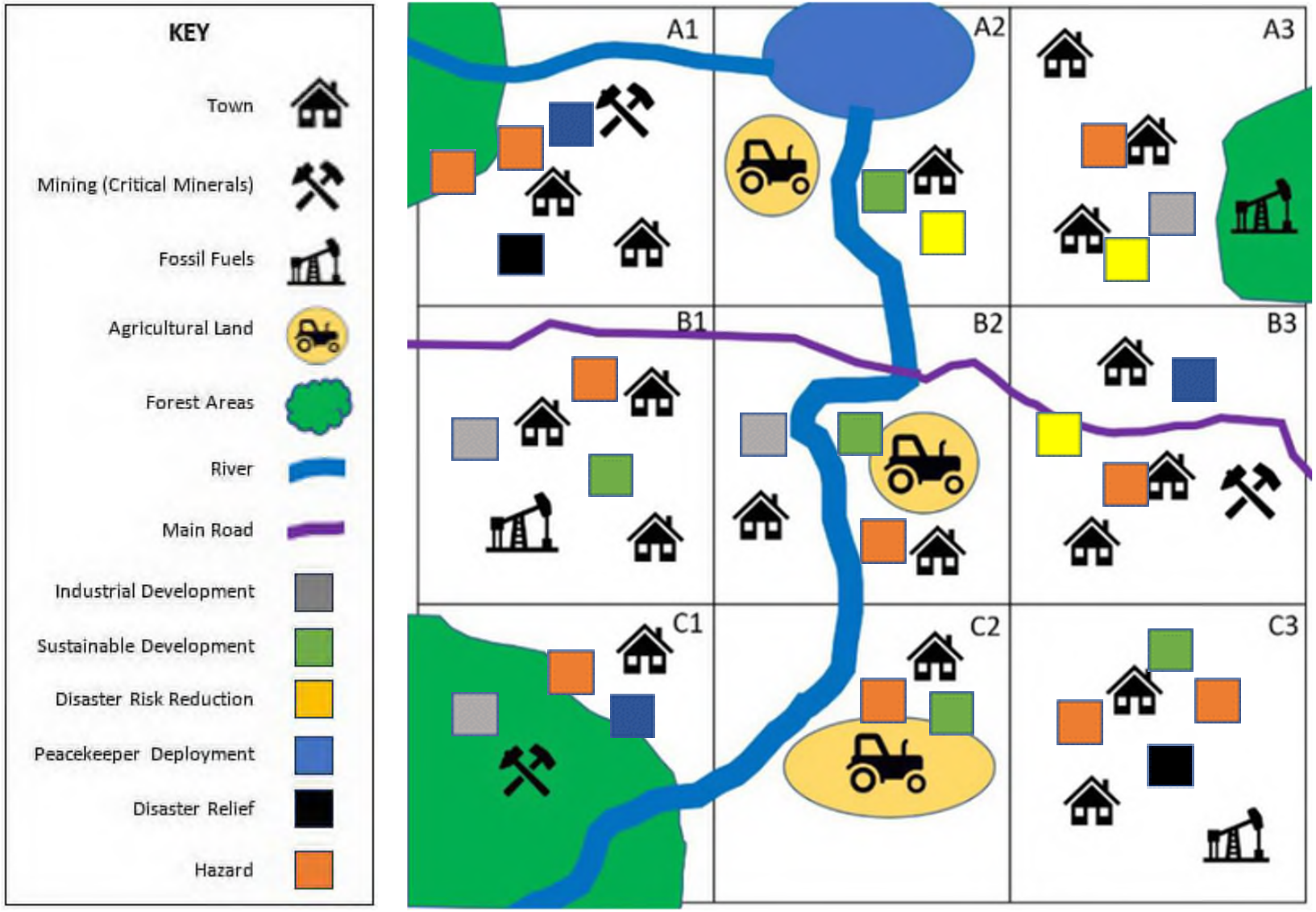
1x industrial development,
After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

Round 2 *(5-10 years)*
During: Placed 2x PSLE deployment,
1x disaster risk reduction,
1x industrial development
After: 3x hazard events (e.g. mining accident, drought, deforestation)

Round 3 *(10-15 years)*

Example Game



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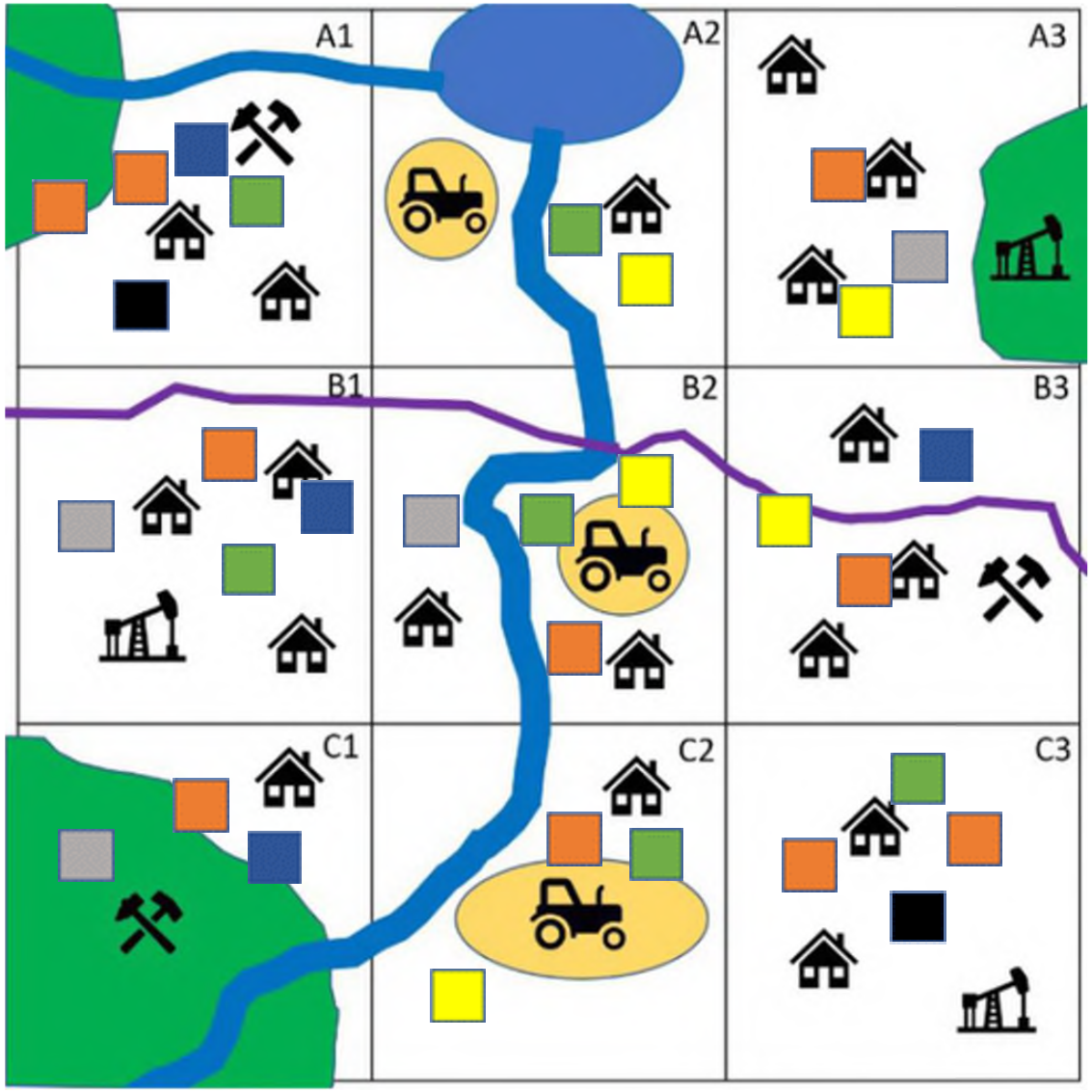
2x sustainable developments,
1x industrial development,
After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

Round 2 *(5-10 years)*
During: Placed 2x PSLE deployment,
1x disaster risk reduction,
1x industrial development
After: 3x hazard events (e.g. mining accident, drought, deforestation)

Round 3 *(10-15 years)*

Round 4 *(15-20 years)*

Example Game



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During: Placed 2x PSLE deployment,
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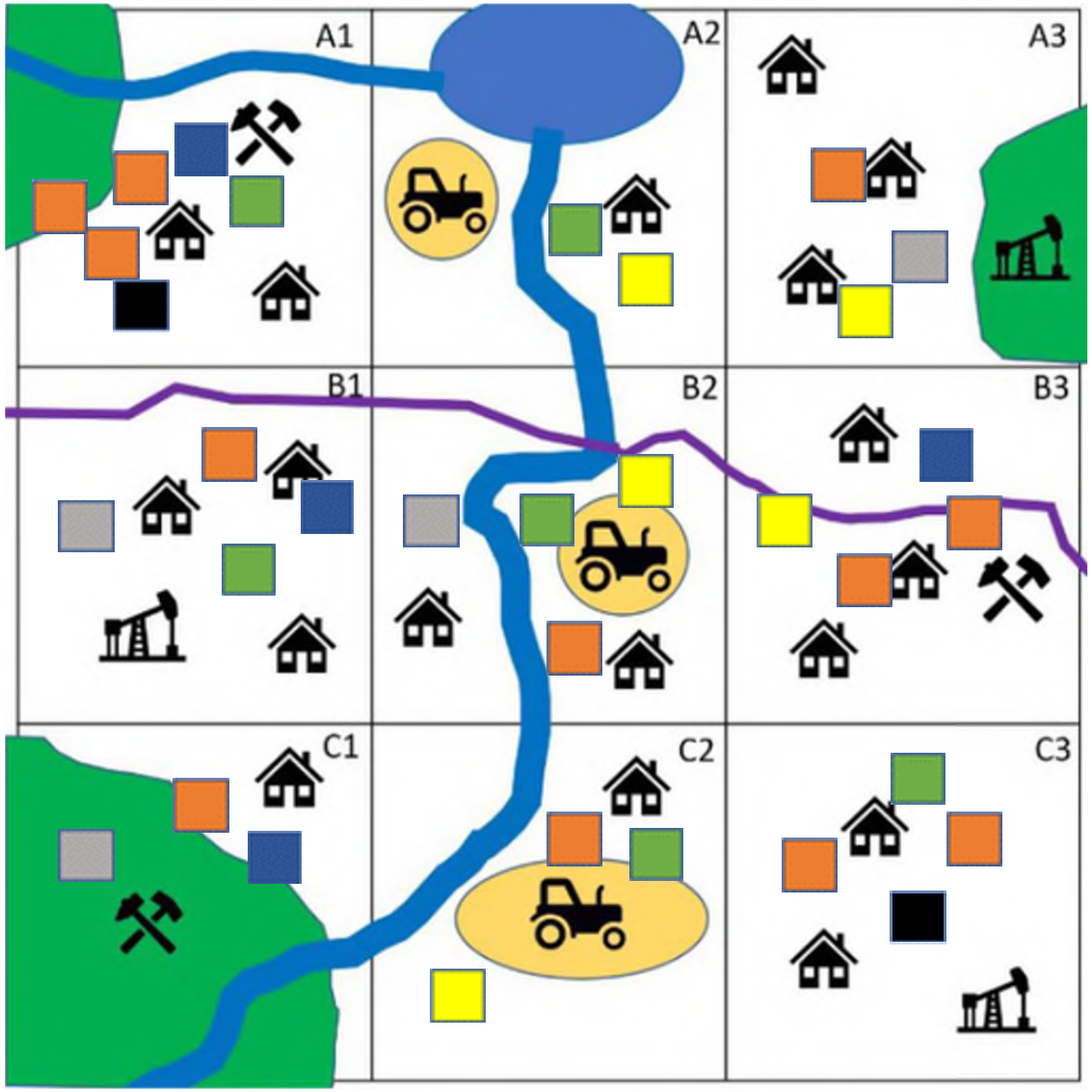
1x industrial development
After: 3x hazard events (e.g. mining accident, drought, deforestation)

Round 3 *(10-15 years)*

Round 4 *(15-20 years)*

Round 5 *(20-25 years)*
During: Placed 1x PSLE deployments,
2x disaster risk reduction,
1x sustainable development

Example Game



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After: 3x hazard events (e.g. flooding, radicalisation, zoonotic disease risk)

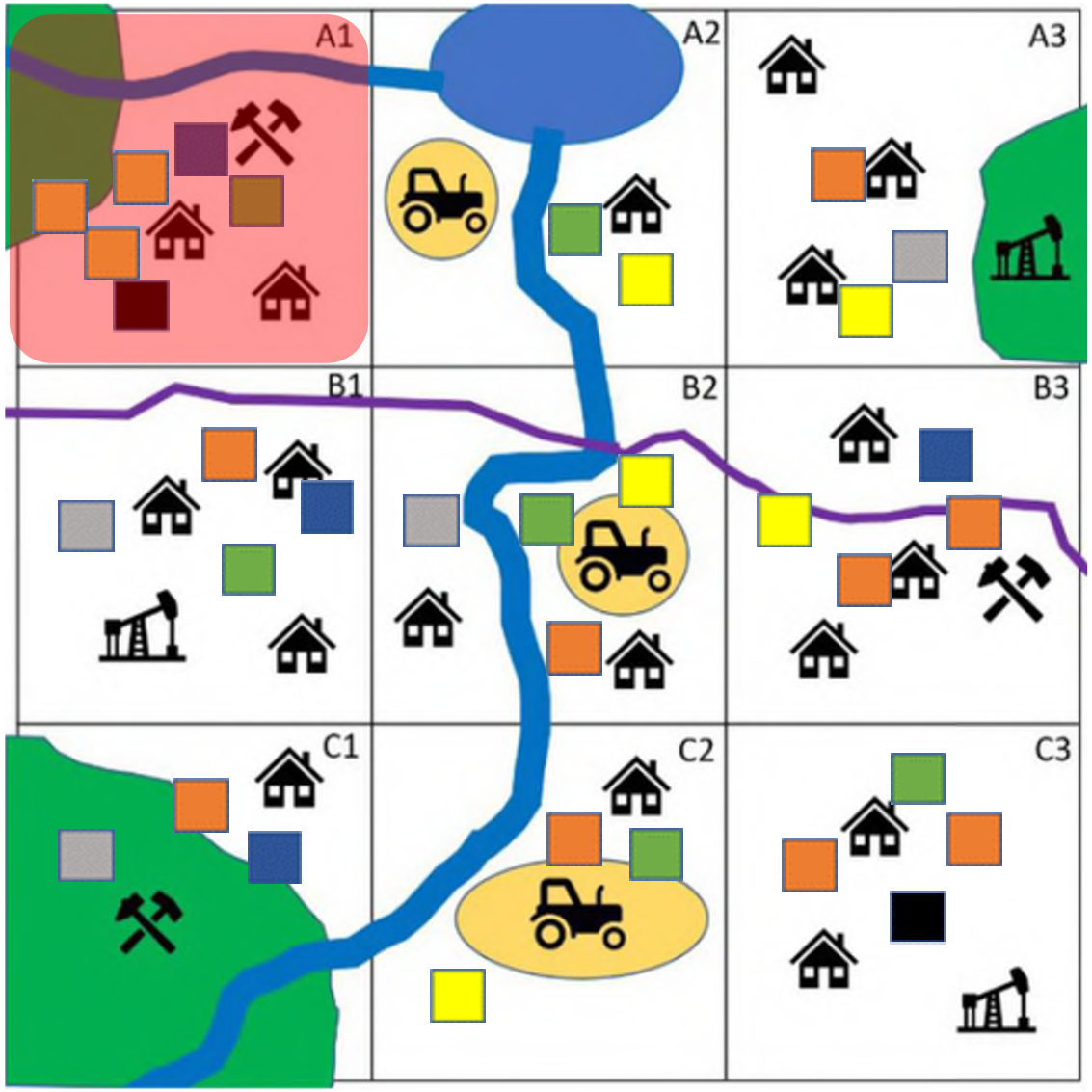
Round 2 *(5-10 years)*
During: Placed 2x PSLE deployment,
1x disaster risk reduction,
1x industrial development
After: 3x hazard events (e.g. mining accident, drought, deforestation)

Round 3 *(10-15 years)*

Round 4 *(15-20 years)*

Round 5 *(20-25 years)*
During: Placed 1x PSLE deployments,
2x disaster risk reduction,
1x sustainable development
After: 3x hazard events (land heave, wildfire, insurgent conflict)

Example Game



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Round 3 *(10-15 years)*

Round 4 *(15-20 years)*

Round 5 *(20-25 years)*
During: Placed 1x PSLE deployments,
2x disaster risk reduction,
1x sustainable development
After: 3x hazard events (land heave, wildfire, insurgent conflict)

Final Act:

- Check for hazards (are you in climate crisis?)
- Check your individual scores (who wins?)

Stakeholder Roles

Mandatory Roles

- Senior Government Official → Has final authority for approving 'which actions to play' and 'where to play them' at the end of each round.
- Multinational Energy Corporation

Additional Roles

- Peacekeeping Mission
- Forestry Conservation NGO
- Local Influencer *(e.g. Elder, Religious Leader, Community Leader, Social Media Influencer)*
- Humanitarian Healthcare Charity
- Multinational Agricultural Corporation
- Water Aid Agency

All Stakeholders

- Let your team know what 'role' you have chosen.

BUT you choose…

- How collaborative or competitive to be
- How much you tell people about your objectives.
- Whether tell the truth or lie.

Be aware your role may change during the game.

Game Rules

Please take 5 minutes to:

- Choose your stakeholder roles
- Read the rules and discuss them within your teams.
- Ask the moderator for clarification if there are any areas of uncertainty.

Round 1

Please take 5 minutes to allocate your capabilities.

End of Round 1

Please add/remove hazards from your board in line with the following events:

1. Unsustainable industrial farming is increasing water stress. Add a Hazard on A2, B2 and C2 if they have Industrial Development
2. If forests are not suitably managed, they will be exploited unsustainably. Add a Hazard on A1, A3 and C1 unless you have played activities in them
3. It is vital to protect transport infrastructures for trade and logistics. Remove 1 Hazard from any square on the board if you have Peace, Security and Law Enforcement deployed in B1, B2 or B3

Round 2

Please take 5 minutes to allocate your capabilities.

End of Round 2

Please add/remove hazards from your board in line with the following events:

1. Insurgents are using forests as bases for their operations. Add a Hazard on A1, A3 and C1 unless you have activities there
2. Resource equity in densely populated areas reduces the risk of violence. Remove 1 Hazard from A3, B1, and B3 if you have played a Sustainable Development there
3. If the main supply route is not maintained and protected, the whole province will suffer. Add a Hazard on B1, B2 and B3 unless you have activities there

Round 3

Please take 5 minutes to allocate your capabilities.

End of Round 3

Please add/remove hazards from your board in line with the following events:

1. Keeping roads open is key to keeping goods and people moving. Add a Hazard to B1, B2, and B3 unless you have activities there
2. Major rivers are at higher risk of flooding. Add a Hazard to A2, B2 and C1 and C2 unless they have Disaster Risk Reduction
3. Too many foreign soldiers increases local resentment. Add 1 Hazard to any square with a peacekeeper in it if you have played 3 or more Peace, Security and Law Enforcement in total

Round 4

Please take 5 minutes to allocate your capabilities.

End of Round 4

Please add/remove hazards from your board in line with the following events:

1. Livestock farmers seek to offset losses from market instability by using unregulated pastures for grazing. Add a Hazard to any square without activity in it

2. Natural disasters can block roads, preventing goods and people moving. Add a Hazard to B1, B2, and B3 unless they have Disaster Risk Reduction or Peace, Security and Law Enforcement deployed

3. Mining of critical minerals has enhanced trade and renewable energy. Remove 1 Hazard from any square on the board for each Industrial Development you have played in A1, B3 or C1

Round 5

Please take 5 minutes to allocate your capabilities.

End of Round 5

Please add/remove hazards from your board in line with the following events:

1. Environmental insecurity increases the risk of inter-group violence. Add a Hazard to any square on the board without a Sustainable Development or Peace, Security and Law Enforcement activity in it
2. Global heating increases the risk of natural disasters. Add 1 Hazard to any square on the board without a Disaster Risk Reduction
3. Burning fossil fuels drives average global temperatures towards 3°C. Add 1 Hazard to every square on the board if you have Industrial Development in A3, B1 or C3

Final Actions

Please:

1. Check whether your team is in a state of ‘climate crisis’ (i.e. do any of the squares on your map have 3 or more hazards within them)
2. Check what your individual scores are (i.e. add up the ‘gains’ and ‘losses’ on your stakeholder card)

End of Game

Questions for discussion (non-prescriptive):

1. Did your team succeed in avoiding a state of crisis? And what were the key reasons for this outcome?

2. What was your individual score? And what were the key reasons you gained this score?

3. What are the key ‘lessons’ or ‘thoughts’ that you have taken from this roleplaying scenario?

Post-Game Participant Questionnaire

We are researching the impact and value of roleplaying in security education.

We would be grateful if you could complete a 5 minute post-game survey.

This is entirely voluntary.

MODREC Ref: 2223/MODREC/23

Further Details

This game was created as part of a collaborative project, led by the King's Environmental Security Research Group (ESRG) and Tunza Games Ltd.

The creation of this scenario was supported by funding from the King's COP26 Engagement Grant.

For further details please visit:

www.kcl.ac.uk/research/environmental-security-research-group-esrg

Environmental Security Research Group

www.tunzagames.com

CONSERVATION CRISIS