

NORDICA CRISIS MANAGEMENT GAME



1. Introduction to handbook

While societies vary across the globe and change over the course of history, they all have something in common: having to navigate crises. Some arrive suddenly and disrupt essential services within hours or days. Others build slowly over years, gradually eroding the conditions for well-being and increasing the likelihood of more severe disruptions ahead.

In a time of heightened geopolitical tension and growing environmental pressures, the need to protect societal foundations, such as access to food, energy, water, health, and security, has become increasingly urgent. At the same time, crises also stem from environmental degradation that strains ecosystems and planetary systems that societies depend on.

In the Nordica Crisis Management Game, we bring together the concepts of sustainability¹ and resilience² in crisis management through a playable simulation. This "serious game" (Alvarez & Djaouti, 2011) invites participants to discuss and reflect on how long-term and short-term approaches to crisis management can be integrated into local and regional planning and development.

This handbook will first introduce the concepts to the game. Next, the gameplay and suggested variations and add-ons to the game are presented. All printable game material is included in the "Game material" section. Finally, the conceptual background to the game is elaborated and references for further reading are included.

Will you succeed in keeping Nordica safe within the planetary boundaries and societal foundations?

Good luck and enjoy the game!
/Nordregio team

Working paper 2026:3
ISSN: 1403-2511
ISBN: 978-91-8001-192-1
DOI: <http://doi.org/10.6027/WP2026.3.1403-2511>



¹ long-term sustainability perspectives are here focused on preventing and reducing underlying risk.

² short-term resilience perspectives are here focused on preparedness, response, recovery, and learning.

The game in a nutshell:

Purpose and learning objectives

This serious-game helps participants:

- Understand sustainability & resilience as complementary perspectives for crisis management (prevention, preparedness, and learning).
- Explore differences between creeping and acute crises.
- Engage with crises in both societal foundations and planetary boundaries.
- Practice scenario-based thinking for prevention and preparedness.
- Co-develop strategies in a fictive setting that can inspire real-world action.

Guiding challenge: Build a society that stays within a "just and safe operating space" while crises intensify.

Prerequisites

You do not need prior technical knowledge to play. All you need is:

- A group willing to collaborate and discuss strategies (recommended 4–6 participants per table)
- A facilitator who can guide the steps and keep time
- Printed game materials and basic stationery (pens, dice's & printed sheets)

Adjustable complexity

- The game can be adapted depending on your purpose and time:
- Simpler / discussion-focused: reduce or remove dice scoring, combine roles and spend more time on strategy discussion and reflection.
- More complex / game-focused: keep full scoring, add multiple crises (optional triggers), add constraints (budgets, dependencies), and assign roles strictly.

2. Concepts central to the game: sustainability, resilience and crisis management

This game invites players to explore key ideas related to sustainability, resilience through a crisis management lens. These concepts come together forming a core insight: sustainable development can reduce the risk of future crises by addressing their underlying causes, while resilient societies can cope with uncertainty and repeated shocks when crises do occur, through preparedness and learning. In the game, sustainability represents the long-term *direction* of society and efforts to prevent crises, while resilience represents society's *stability* and *ability* to manage and adapt to crises when they happen. A more detailed explanation of the main concepts used in the game can be found in section 5 (p.39). *Background on sustainability and resilience in crisis management.*

Table 1: Key concepts included in the game.

| Concept | Definition | Gameplay |
|-------------------------------------|--|--|
| Sustainability | Reducing the underlying drivers of crisis while keeping society within a safe and just operating space (Raworth, 2017) | Prevention strategy + well-being board |
| Resilience | Preparedness and learning actions, building capabilities that reduce crisis impacts, improve coordination, and strengthen the ability to adapt over time. | Preparedness strategy + well-being board |
| Doughnut Economics | The Doughnut provides Nordica with a goal: to stay within the safe and just operating space. | Well-being board + crisis cards |
| Prevention | Long-term, sustainability-oriented action that can stop a crisis from happening or reduce how widely it spreads. | Prevention strategy + prevention and learning dice roll. |
| Preparedness | Resilience-oriented capacities that reduce impact severity when disruption occurs. | Preparedness strategy + preparedness and learning dice roll. |
| Creeping crisis | Designed to prompt stronger discussion about prevention and about why societies often struggle to act early, even when warning signs exist. | Crisis cards + learning strategy discussions |
| Acute crisis | Designed to prompt stronger discussion about preparedness and the need to work pro-actively to mitigate the impacts of threats that can pose immediate harm and sudden shocks. | Crisis cards + learning strategy discussions |
| Polycrisis & permacrisis | The default rule is one crisis per decade, but optional add-ons allow multiple crises in the same decade to force players to design strategies that mitigate several crises at once. This allows exploring synergies and trade-offs between different sectors and spheres. | Decades + optional multiple crisis cards. |
| Permacrisis | The concept helps frame why crisis management cannot only be reactive: if societies experience repeated shocks, they need stronger prevention, preparedness, and learning to avoid getting stuck in continuous crisis response. | Crisis cards + well-being board |

3. The Nordica Crisis Management Game

The Nordica Crisis Management Game is a scenario-based game designed to help participants explore how societies can plan and develop in times of crises. A serious yet fictive setting is developed to enable discussions on how to prevent future crises, as well as how to reduce impacts and improve response from crises. The game is played collaboratively: participants act as inhabitants of the fictional country of Nordica over three decades, making choices under uncertainty and reflecting on the consequences. Each decade, players plan prevention and preparedness strategies, test them against a crisis, adapt through learning strategies, and track how society develops over time. Below you can read about how to prepare for and play the game.

3.1 Preparations

Before playing the game you need to print and cut out the game materials.

Accessibility and printing

The game is designed so that anyone can play by printing the material on standard paper:

- Print boards and templates on A4 for a compact table setup OR print on A3 for easier readability and more space for writing
- Cut out and shuffle the crisis cards
- Cut out the decade tokens.

Game materials and components

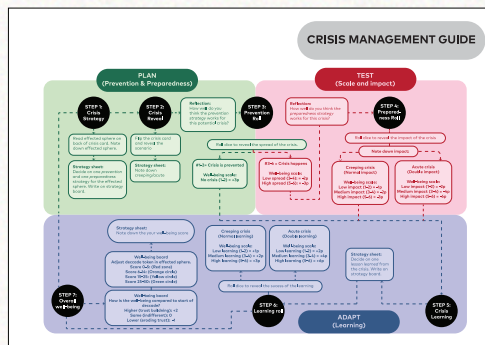
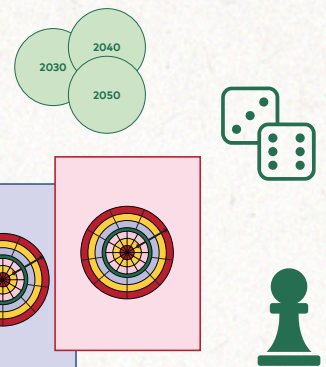
Required material:

- 1x Crisis management guide
- 1x Well-being board (A3 or A4)
- 1x Strategy sheet (A3 or A4)
- 1x Deck of crisis cards (A4, cut out)
- 1x Dice (physical or app)
- 1x Pawn (anything small and movable, e.g., coin or ring)
- For level 2-3
- 1x Pen
- 3 x Decade tokens

All materials can be found in section **4. Game materials.**

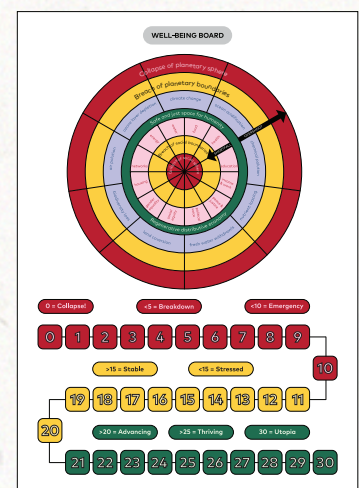
How to use the game materials during play:

- Use the crisis management guide to guide you through the decade
- Use the well-being board to mark the affected sphere and to move the pawn on the well-being scale as points are gained or lost.
- Use the strategy sheet to write one prevention strategy, one preparedness strategy, and one learning strategy per decade (short and concrete).



| Decade | Sphere affected (Planetary/Societal) | Prevention strategy | Preparedness strategy | Crisis type (Creeping/Acute) | Lesson learned | Well-being score end of decade |
|--------|--------------------------------------|---------------------|-----------------------|------------------------------|----------------|--------------------------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |

| Role | Main responsibility | Key actions |
|----------------|---|--|
| The guide | Keeps the process running (20 mins) | Uses the crisis management guide to guide the group through the stages of the crisis management |
| The researcher | Tracks the well-being (30 mins) | Tracks Nordica's well-being on the well-being board, moves pawn along the well-being scale, and places marks on the well-being board on the well-being board at the end of each decade |
| The strategist | Keeps track of the strategy sheet by recording the affected sphere, listing strategies for crisis prevention and preparedness (30 mins) | Keeps track of the strategy sheet by recording the affected sphere, listing strategies for crisis prevention and preparedness (30 mins) |
| The challenge | Provides the crisis (10 mins) | Provides the crisis (10 mins) |
| Observer | Actively participates (20 mins) | Actively participates (20 mins) |



3.2 Game instructions

Suggested room setup:

- Set up one table for each group (4–6 people per group).
- Place the **crisis management guide** and **strategy sheet** on the tables.
- Position the **well-being board** on the table with the pawn placed on 15 on the 1–30 well-being scale. Place the three **decade-tokens** anywhere on the well-being board.
- Stack the deck of **crisis cards** face down within reach.
- Have **dice** ready on the table.

How to play the game

To get most out of the game as a learning tool, we propose a 1,5 hour-session, including a short introduction, a reflection and a discussion following the game. The proposed workshop is designed to be facilitated by one facilitator who knows the rules of the game and can guide one or multiple groups through the game.

Part 1:

The facilitator introduces the game and briefly explains concepts that relate to the game. The game format is explained using the game materials, and roles are divided among the participants.

The game can be adjusted depending on the time availability and ambition of the game. The facilitator or group can decide between three different levels, depending on previous experience with the game, mood in the room or aim of the session.

Level one is easier and more discussion focused, while level three brings in more complex aspects of managing multiple crises at once, and staying within well-being limits. For the most balanced session we propose level 2 as the default level to play.

Part 2:

The game is played guided by the crisis management guide which takes the players through three rounds (decades), where each decade follows the same 7-step crisis management cycle. The steps are included in three management phases: A) planning (Crisis strategy, reveal crisis), B) testing (prevention roll & preparedness roll) and C) adapting (crisis learning, learning roll, record wellbeing). Think of each round as a policy cycle: you set intentions (strategies), test them against uncertainty (dice and the scenario), experience consequences (well-being shifts), and then update how you would act next time (learning).

Part 3:

The group debrief and discuss the rounds played. If the game is played with multiple groups, the discussion can be used to share the progress of each Nordica team, and the strategies that emerged during the game. The discussions can also focus on how the mechanism of the game translates to reality.

Table 2: Suggested structure of game session parts and activities.

| Part | Activities |
|---|---|
| 1. Introduction (5–15 min) | <ul style="list-style-type: none"> • Explain purpose and key concepts (sustainability and resilience; prevention, preparedness and learning; creeping and acute). • Explain the game format: Introduce game and fictive setting over three decades. Quick tour of the game material (well-being board, strategy sheet, crisis cards) • Divide roles. |
| 2. Play three rounds (45–60 min) | <ul style="list-style-type: none"> • Choose which level to play. • Play 3 rounds of the 7-step loop (below). |
| 3. Debrief (10–15 min) | <ul style="list-style-type: none"> • Consolidate learning and share strategies. |

Part 1: Introduction

This section goes into detail of the different parts of the game. The facilitator of the game session starts by introducing the game to the group(s) that are participating.

Purpose, concepts and game format (to be presented or read aloud)

The Nordica Crisis Management Game provides a way to integrate long-term sustainability perspectives and short-term resilience perspectives in crisis management. In a fictional setting it enables us to experience, prevent, prepare and learn from numerous crises. We will discuss and compare prevention and preparedness strategies for different types of crises, including those affecting both societal foundations and planetary boundaries, and both creeping and acute crises. The game is played in three decades, where each decade follows the same 7-step crisis management cycle. The goal for the game is to stay within the safe and just operating space. To enable learning and innovation we encourage the group to be open-minded and brave enough to use all the tools in the toolkit. Get ready for now I would like to welcome you to Nordica.

Welcome to Nordica (facilitator reads aloud)

Nordica is a country in the northern hemisphere, where summers are full of berry picking, hiking in the mountains, mosquitoes, and swimming in lakes under the midnight sun. The warm season is balanced out by long winters with plenty of snow and darkness that provides opportunities for both adventure sports and cozy indoor time with friends and family.

The country consists of 1 million inhabitants, most of which are located in three major urban centres interconnected with well-functioning ferry and railway connections and highly maintained roads. The main economic sectors are energy, fishing, tourism, and IT-innovation.

Anchored in a strong Nordic tradition of welfare and shared responsibility, Nordica's population aims to create a society where social wellbeing for all is the main goal.

To make this happen, it is important to include aspects of both sustainability and resilience, staying within a safe and inclusive operating space. Where ecological foundations are not overshoot and societal foundations are maintained.

To build a society that is not only sustainable but also resilient, we must cooperate to prevent long-term risks while preparing for abrupt shocks to the system. The game takes place over 30 years. Three rounds, each covering a decade. Will you succeed? This will be a mix of strategic planning and chance – just like real world leadership.

Let the game begin!

Divide roles to understand the game material

Before kicking off the games, the group will be introduced to the elements of the game, and their roles in the game. The facilitator may briefly go through the material provided with the game (e.g. the well-being board represents the well-being of Nordica) and point out how they connect with concepts of sustainability and resilience.

The facilitator can also help participants divide the suggested roles among themselves. The roles can also be combined or shared between players, or taken on fully by one facilitator who guides the game. Through managing the roles, everyone is active in the game, while the facilitator can manage multiple tables and have short check-ins. The game can however also be run without roles, where tasks included in the roles are shared in the group. This may, however, need more detailed facilitation at each table. The roles can be printed and divided in the group or only described.

Roles in the game:

| Role | Main responsibility | Key actions |
|-----------------------|---|--|
| The guide | Keeps the process moving (All steps) | Uses the crisis management guide to guide the group through the steps of the <i>crisis management</i> . |
| The researcher | Tracks the well-being (Steps 1, 3-4, 6-7) | Tracks Nordica's well-being on the well-being board, moves pawn along the well-being scale, and places marks well-being (decade token) on the well-being board at the beginning and end of each decade. |
| The strategist | Formulates decisions (Steps 1, 5 & 7) | Keeps track of the strategy sheet by recording the affected area, listing strategies for crisis prevention and preparation (step 1), noting learning and adaptation methods after each decade (step 5), and documenting the final well-being score at the end of each decade (step 7). |
| The challenger | Reveals the unknown (Steps 1-4, 5) | Reads the crisis cards (step 1 & 2), rolls the dice to reveal the outcome of prevention (step 3), impact (step 4), and learning (step 6) of the crisis. |
| Citizen | Actively participates (All steps) | Contributes perspectives and ideas, helpful and engaged citizen, contributes with insights to Nordica management. |

Part 2: Choose level and play three rounds of the 7-step loop

Once the set-up is made, and the roles divided, it is time to choose which level to play and then start playing the game!

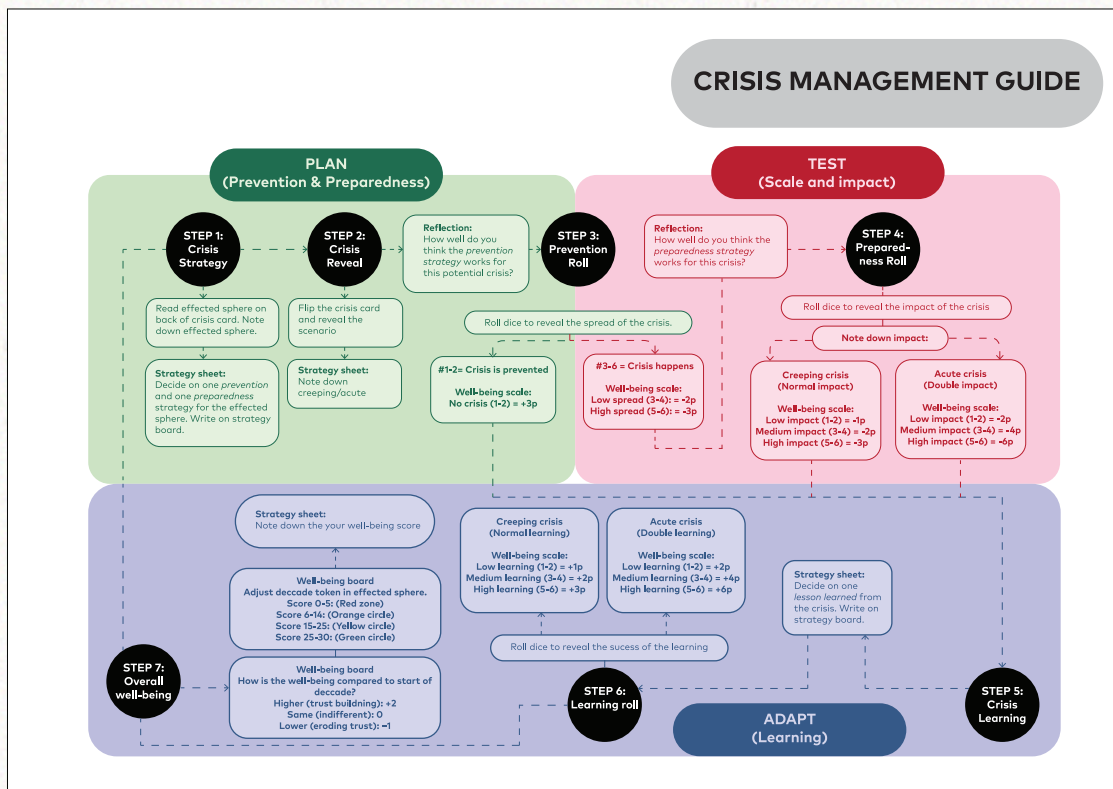
Choose which level to play and follow the seven steps.

Depending on the ambition level of your game session, you can choose which level to play. You may also start on one level and switch to another as you go. We recommend beginning with level 1 as a test run to understand the game's logic and then moving on to level 2 as the standard experience. If you have played the game before or want to try out managing multiple crisis, you can start with or switch to level 3. Once you have picked your level you can start the game at "Phase A: Planning" by following the instructions or be guided by the facilitator.

When playing, read the instructions in order: level 1, then level 2, and finally level 3. If you play level 1, only read level 1 instructions. If you play level 3, read all level 1-3 instructions.

| Level | Characteristics | How to play |
|---------|--------------------------------|--|
| Level 1 | Introductory / discussion mode | Play game steps without keeping well-being score and without moving the pawn on the well-being scale. |
| Level 2 | Standard game | Play game one crisis per decade keeping well-being score |
| Level 3 | Poly-crisis mode | Play game with multiple potential crises at once and keep score (including synergies and cascading effects). |

Play three rounds of the 7-step loop (see CRISIS MANAGEMENT GUIDE)



Phase A: Planning

Step 1: Crisis strategy

Level 1-2:

1. Take the top crisis card and read only the back.
2. On the well-being board, indicate the affected sphere by placing the decade token on the effected sphere.
3. On the strategy sheet, decide on:
 - One prevention strategy for the affected sphere
 - One preparedness strategy for the affected sphere
4. Write both strategies clearly on the strategy sheet.

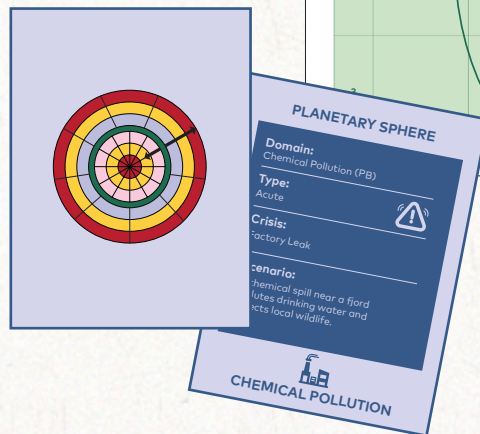
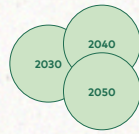
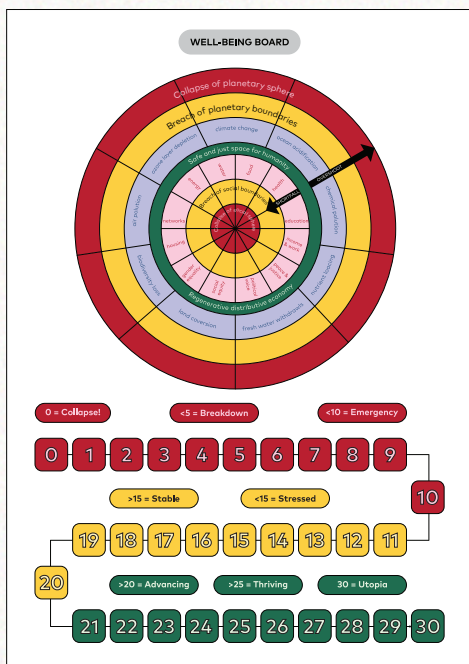
Level 3:

Several crisis cards can be triggered at the start of the decade depending on your well-being score. More crises can also be triggered by the facilitator during the game.

How many crises should be triggered at the start of the decade? This depends on your well-being score, monitored on the well-being scale on the well-being board. A crisis is triggered if either of the conditions are true at the beginning of the game (for as long as they are true). If multiple conditions are true, choose the one that triggers most crisis.

| Conditions for triggering crises (level 3) | Number of crises triggered |
|---|--|
| If well-being is 10 or higher | Trigger 1 crisis (default) |
| If well-being is below 10 OR if two crises has hit (marked with a decade token) the societal foundations or two crisis has hit the planetary boundaries. | Trigger 2 crises (draw 2 crisis cards) |
| If well-being is below 5 | Trigger 3 crises (draw 3 crisis cards) |
| When facilitator decides to trigger multiple crisis | Trigger decided amount of crisis cards |

When playing with multiple crisis cards, come up with *one* prevention strategy and *one* preparedness strategy that addresses both/all crises together. The goal is to identify *synergies* to manage the crisis (shared drivers, capacities and cross-sector measures).



STRATEGY SHEET

| Decade | Sphere effected (Planetary/Societal) | Prevention strategy | Preparedness strategy | Crisis type (Creeping/Acute) | Lesson learned | Well-being score end of decade |
|--------|--------------------------------------|---------------------|-----------------------|------------------------------|----------------|--------------------------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |

Playing tip: A useful mindset is to treat your strategies as ideas:

Prevention is your idea how to reduce underlying risk before crises hit: "We reduce future risk by ___ in ___, targeting ___."

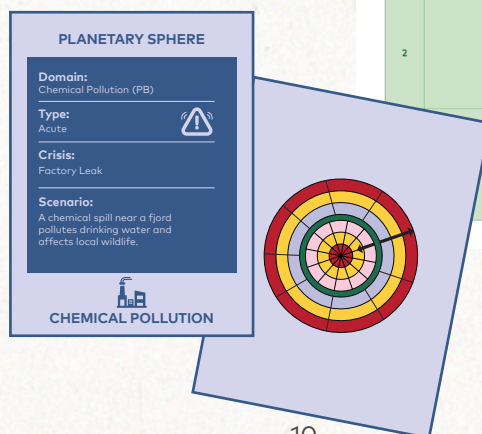
Preparedness is your idea on how to reduce harm and maintain essential functions if disruption happens anyway: "If the crisis happens, we protect ___ by strengthening ___."

Learning is your idea on what to improve next time, based on what you just experienced: "Next decade, we change ___ because ___."

Step 2: Reveal the crisis

Level 1-3:

1. Flip the crisis card and read the full scenario.
2. Write on the strategy sheet:
 - Crisis title/scenario
 - Type of crisis: creeping or acute
3. Brief reflection: How well do we think the prevention strategy will prevent this crisis?



STRATEGY SHEET

| Decade | Sphere effected (Planetary/Societal) | Prevention strategy | Preparedness strategy | Crisis type (Creeping/Acute) | Lesson learned | Well-being score end of decade |
|--------|--------------------------------------|---------------------|-----------------------|------------------------------|----------------|--------------------------------|
| 1 | | | | | | |
| 2 | | | | | | |

Phase B: Test the plan

Step 3: Prevention roll (does it hit, and how widely?)

Level 1:

Roll the dice to reveal scale of the crisis. If crisis hits (dice nr: 3-6) proceed to step 4 (impact). If crisis is prevented (dice nr: 1-2) proceed to step 5 (learning)

Level 2:

Before moving to next step, move pawn on well-being scale, depending on roll:

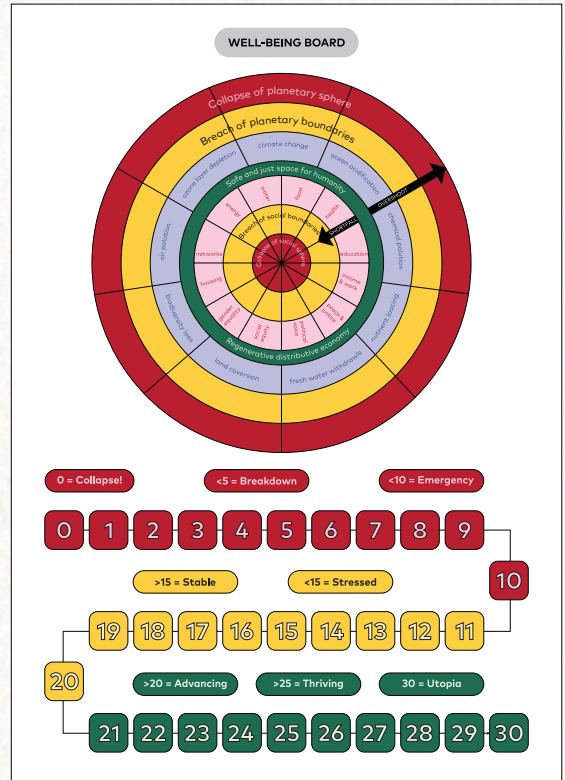
- 1-2: No spread (prevented) → +3 points
- 3-4: Low spread → -2 point
- 5-6: High spread → -3 points



Level 3:

Roll and move pawn for each crisis separately as instructed in level 1 and 2.

- If both crises' hits, get additional -2 points for cascading effects.
- If one crisis hits, move to step 4 with the crisis that hits (and keep the other crisis for step 5).
- If no crisis hits get additional +2 points for regenerative efforts and proceed to step 5.



Step 4: Preparedness roll (impact severity)

Level 1: If the crisis hits:

Brief reflection: How well does our preparedness strategy work for this crisis? Then roll the dice to determine the impact. For level 1 this is discussion only.

Level 2:

Move pawn on the well-being scale based on the impact roll and depending on the type of crisis (creeping/acute) where acute crises hit harder than creeping crisis:

| Creeping crisis | Score | Acute crisis | Score |
|---------------------|-------|---------------------|-------|
| Low impact (1-2) | = -1p | Low impact (1-2) | -2p |
| Medium impact (3-4) | = -2p | Medium impact (3-4) | -4p |
| High impact (5-6) | = -3p | High impact (5-6) | -6p |

Level 3:

If multiple crises, roll for each crisis separately and move pawn based on impact. Move an extra -2 if you roll 3 and above for both crises, representing cascading effects.

Phase C: Adapt

Step 5: Crisis learning

Level 1-2: Decide on one learning strategy:

- What should Nordica improve next time to better prevent and/or prepare for this type of crisis?
- Learning strategies should influence how you think and act in the next decade.
- Write the lesson learned on the strategy sheet (short, concrete, actionable).

Level 3:

If facing multiple crisis, write down a lesson that creates synergies between the crises.

| STRATEGY SHEET | | | | | | |
|----------------|--------------------------------------|---------------------|-----------------------|------------------------------|----------------|--------------------------------|
| Decade | Sphere effected (Planetary/Societal) | Prevention strategy | Preparedness strategy | Crisis type (Creeping/Acute) | Lesson learned | Well-being score end of decade |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |

Step 6: Learning roll (how well did society learn?)

Level 1:

Roll the dice to reveal learning capacity.

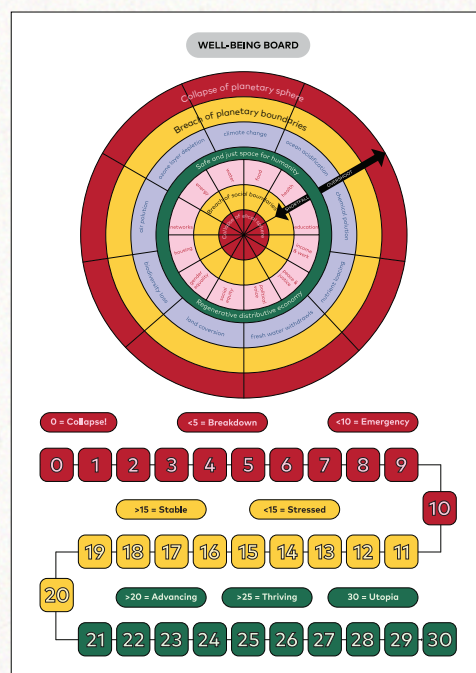
Level 2:

Move pawn on well-being scale based on the roll.

| Creeping crisis | Score | Acute crisis | Score |
|-----------------------|-------|-----------------------|-------|
| Weak learning (1-2) | = +1p | Weak learning (1-2) | +2p |
| Medium learning (3-4) | = +2p | Medium learning (3-4) | +4p |
| Strong learning (5-6) | = +3p | Strong learning (5-6) | +6p |

Level 3:

If both crises' roll 3 or above, get additional +3 points for synergy learning.



Step 7: End the decade and record Nordica's well-being

Level 1:

Reflect over current well-being of your Nordica based on the crisis you faced, before moving to the next decade.

Level 2-3:

How is your well-being score compared to the start of the decade?

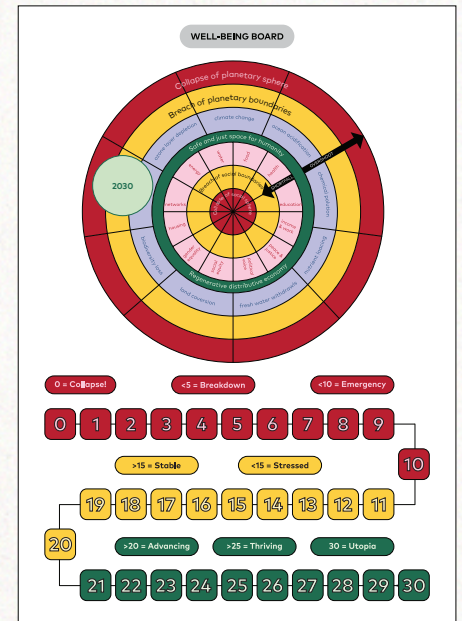
If the same or higher: +2 (for building societal trust)

If lower than start: -1 (for eroding societal trust)

Write the current well-being score on the strategy sheet. Adjust decade token placed on the effected sphere to be on the right colour based on your well-being score.

- Score 0-10: (Red zone)
- Score 11-20: (Yellow zone)
- Score 21-30: (Green zone)

Optional discussion: Use the well-being board to reflect on which spheres are under pressure.



Part 3: After round three: debrief and discussion

Once you have played three rounds of the 7 steps, or reached either societal utopia or collapse, your game has come to an end. It is now time to reflect over how your Nordica made it. For debriefing, consider the following questions.

Outcomes:

1. How did Nordica make it? Thriving, strained, or failing? Why?
2. Share one prevention and one preparedness strategy from your table.

Strategies:

3. Where did synergies/trade-offs emerge between prevention and preparedness?
4. If playing poly-crisis version: Where did synergies/trade-offs emerge between crises?

Transfer to real-world contexts:

5. How was it working with prevention and preparedness strategies?
6. Is it transferable to real settings in your context?

Facilitator tips:

Here are some tips to think about when facilitating the game:

- Remind your groups that there is no single right way to win, the goal is to explore prevention, preparedness, potential trade-offs between these and consequences of choices.
- Keep strategies short and simple. The goal is to think about the difference between prevention and preparedness, not to design detailed policies.
- The game has high emphasis on uncertainty (represented by the dice-rolls). This gives room to reflect on why even solid strategies can fail, and what learnings we can make from experiences of crises.
- The game will take up scenarios from multiple sectors and background. You do not have to be an expert in any or every sector to participate, the floor is open to any experience and suggestions.

Add-ons and ways to modify the game

Use these options to make the game lighter, deeper, easier, or more useful for your group.

Add-ons for richer learning

- **Budget constraint:** Give each decade a fixed "budget" to distribute across prevention, preparedness, and learning.
- **Dependency mapping:** Before Round 1, sketch key dependencies between spheres; use it to interpret spread (step 3).
- **Equity lens:** Require each strategy to include how vulnerable groups are protected.
- **Custom cards:** Replace or add crisis cards tailored to your sector (health, energy, cyber, supply chains).
- **Learning mode:** Allow one re-roll per decade if the group gives a strong justification.

GAME BACKGROUND AND DEVELOPMENT

Nordica Crisis Management Game was designed by researcher Hedda Thomson Ek and in collaboration with Elin Slätmo, Anne Katrine Ebbesen, Kotryna Juškaitė and other colleagues. The game is designed for use in policy workshops, stakeholder dialogues, educational settings, or as a standalone learning tool.

4. Game material

Printing instructions

To play the game, print the game materials provided here in Section 4: Game material.

- The document is designed for double-sided printing on A3 paper (A4 can be used if A3 is not available).
- Download the game as a PDF and open it.
- Click the Print icon and adjust the print settings:
 - **Pages to print:** 15–38 (Section 4)
 - **Colour printing:** On
 - **Double-sided printing:** Flip along the long edge (if available)

Printing design notes

- The **game guide, board and sheet** are designed to be printed as separate sheets, even when using double-sided printing. Blank pages are included between sections for this reason.
- The **crisis cards** are designed to be printed double-sided, so that the front and back together form one card. These should then be cut out.
- **Extra blank cards** are included and can be filled in if additional cards are needed.
- The card-sheets also include **three decade tokens** to be cut out.

Facilitator One-Pagers (By level 1-3)

Facilitator sheet: Level 1 (Introductory)

Purpose: Orientation, shared understanding, discussion

Use when: First-time players, short sessions, mixed audiences

Key instructions:

- No scoring
- One crisis per decade
- Emphasize reasoning, not outcomes

Facilitator tips:

- Keep strategies to one sentence
- Use qualitative status at decade end

Facilitator sheet: Level 2 (Standard game)

Purpose: Balanced learning + gameplay

Use when: Most workshops and trainings

Key instructions:

- One crisis per decade
- Use full scoring
- Track well-being and doughnut

Facilitator tips:

- Remind players prevention affects spread, preparedness affects impact
- Pause briefly after each decade for reflection on your well-being score.

Facilitator sheet: Level 3 (Advanced poly-crisis)

Purpose: Systems thinking, compounding risk, trade-offs

Use when: Experienced groups, expert audiences

Key instructions:

- Multiple crises based on well-being
- One combined strategy per decade
- Roll crises separately

Facilitator tips:

- Focus discussion on interdependencies
- Highlight cascading effects and learning synergies
- Allow more time per decade

ROLES IN THE GAME

| Role | Main responsibility | Key actions |
|-----------------------|---|--|
| The guide | Keeps the process moving (All steps) | Uses the crisis management guide to guide the group through the steps of the <i>crisis management</i> . |
| The researcher | Tracks the well-being (Steps 1, 3-4, 6-7) | Tracks Nordica's well-being on the well-being board, moves pawn along the well-being scale, and places marks well-being (decade token) on the well-being board at the beginning and end of each decade. |
| The strategist | Formulates decisions (Steps 1, 5 & 7) | Keeps track of the strategy sheet by recording the affected area, listing strategies for crisis prevention and preparation (step 1), noting learning and adaptation methods after each decade (step 5), and documenting the final well-being score at the end of each decade (step 7). |
| The challenger | Reveals the unknown (Steps 1-4, 5) | Reads the crisis cards (step 1 & 2), rolls the dice to reveal the outcome of prevention (step 3), impact (step 4), and learning (step 6) of the crisis. |
| Citizen | Actively participates (All steps) | Contributes perspectives and ideas, helpful and engaged citizen, contributes with insights to Nordica management. |

CRISIS MANAGEMENT GUIDE

PLAN (Prevention & Preparedness)

STEP 1: Crisis Strategy

Read effected sphere on back of crisis card. Note down effected sphere.

Strategy sheet:
Decide on one *prevention* and one *preparedness* strategy for the effected sphere. Write on strategy board.

STEP 2: Crisis Reveal

Flip the crisis card and reveal the scenario

Strategy sheet:
Note down creeping/acute

Reflection:
How well do you think the *prevention* strategy works for this potential crisis?

Roll dice to reveal the spread of the crisis.

#1-2 = Crisis is prevented
Well-being scale:
No crisis (1-2) = +3p

STEP 3: Prevention Roll

Reflection:
How well do you think the *preparedness* strategy works for this crisis?

#3-6 = Crisis happens
Well-being scale:
Low spread (3-4) = -2p
High spread (5-6) = -3p

TEST (Scale and impact)

STEP 4: Prepared- ness Roll

Roll dice to reveal the impact of the crisis

Note down impact:

Creeping crisis
(Normal impact)
Well-being scale:
Low impact (1-2) = -1p
Medium impact (3-4) = -2p
High impact (5-6) = -3p

Acute crisis
(Double Impact)
Well-being scale:
Low impact (1-2) = -2p
Medium impact (3-4) = -4p
High impact (5-6) = -6p

Strategy sheet:
Note down the your well-being score

Well-being board
Adjust decade token in effected sphere.
Score 0-5: (Red zone)
Score 6-14: (Orange circle)
Score 15-25: (Yellow circle)
Score 25-30: (Green circle)

Well-being board
How is the well-being compared to start of decade?
Higher (trust building): +2
Same (indifferent): 0
Lower (eroding trust): -1

Creeping crisis
(Normal learning)
Well-being scale:
Low learning (1-2) = +1p
Medium learning (3-4) = +2p
High learning (5-6) = +3p

Acute crisis
(Double learning)
Well-being scale:
Low learning (1-2) = +2p
Medium learning (3-4) = +4p
High learning (5-6) = +6p

Roll dice to reveal the success of the learning

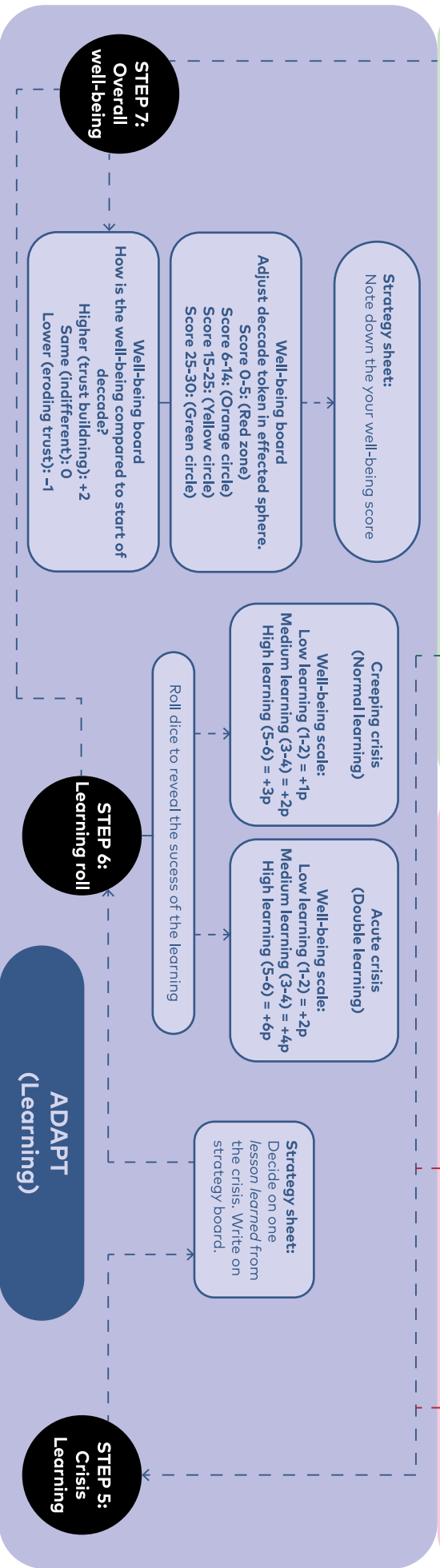
STEP 6: Learning roll

ADAPT (Learning)

Strategy sheet:
Decide on one *lesson learned* from the crisis. Write on strategy board.

STEP 5: Crisis Learning

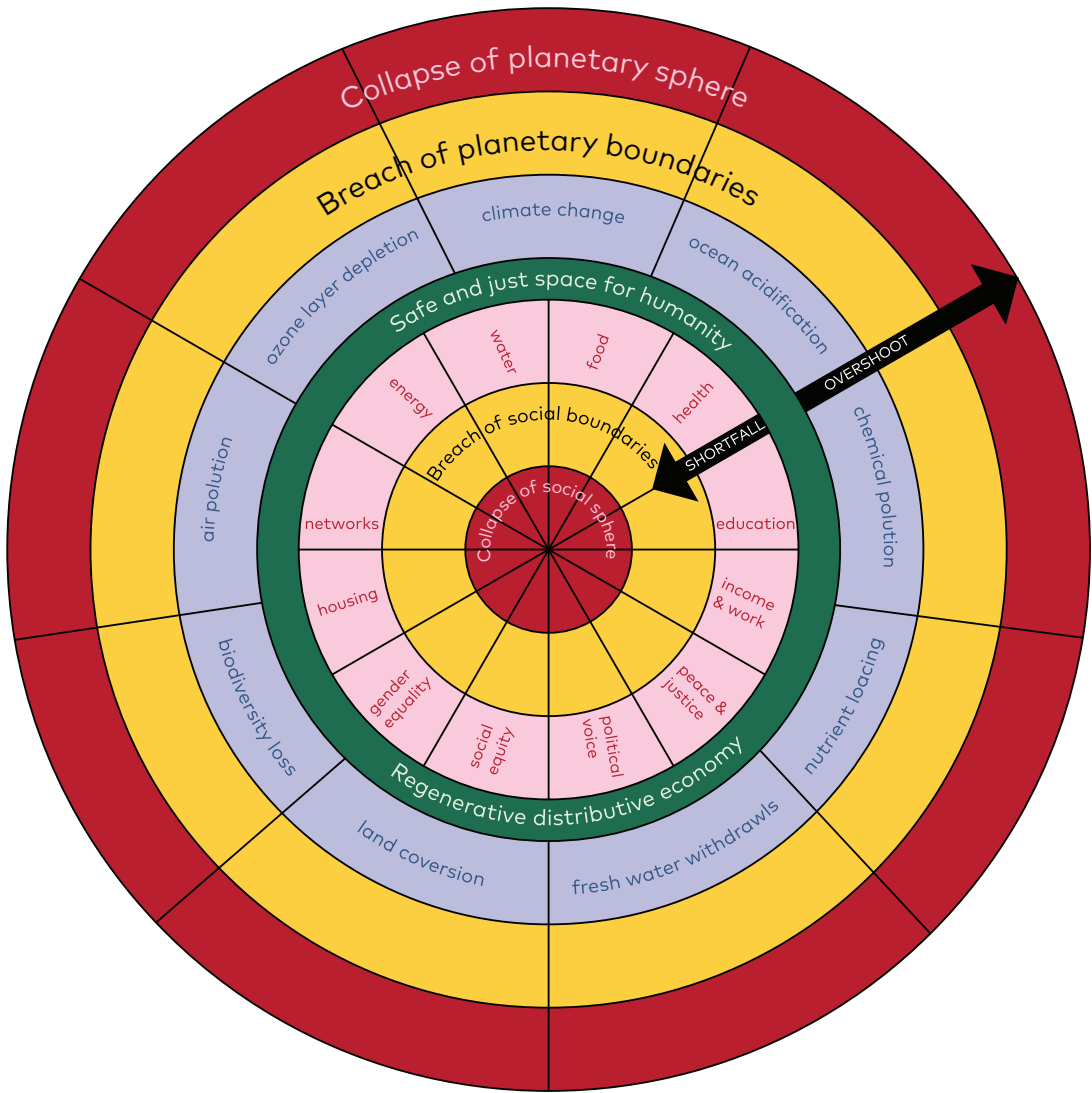
STEP 7: Overall well-being



STRATEGY SHEET

| Decade | Sphere effected (Planetary/Societal) | Prevention strategy | Preparedness strategy | Crisis type (Creeping/Acute) | Lesson learned | Well-being score end of decade |
|--------|---|---------------------|-----------------------|---------------------------------|----------------|-----------------------------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |

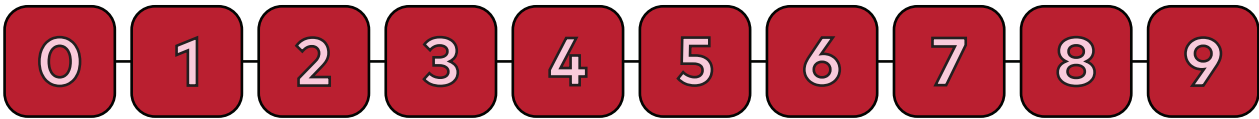
WELL-BEING BOARD



0 = Collapse!

<5 = Breakdown

<10 = Emergency



>15 = Stable

<15 = Stressed



>20 = Advancing

>25 = Thriving

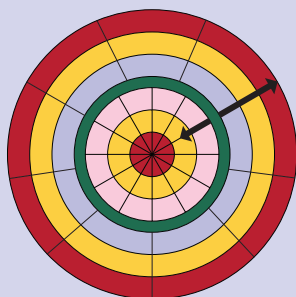
30 = Utopia



Crisis cards (Planetary creeping)

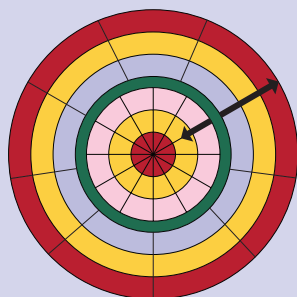
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

PLANETARY SPHERE



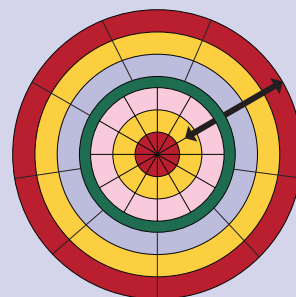
CLIMATE CHANGE

PLANETARY SPHERE



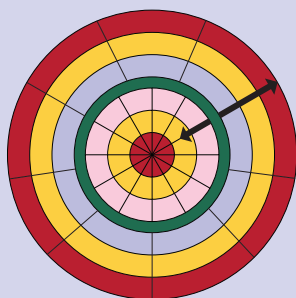
OCEAN ACIDIFICATION

PLANETARY SPHERE



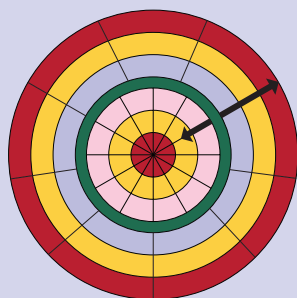
CHEMICAL POLLUTION

PLANETARY SPHERE



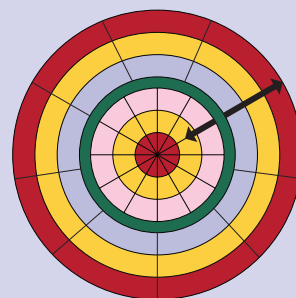
NUTRIENT LOADING

PLANETARY SPHERE



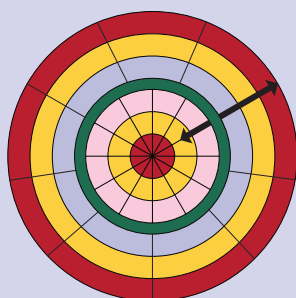
FRESHWATER WITHDRAWALS

PLANETARY SPHERE



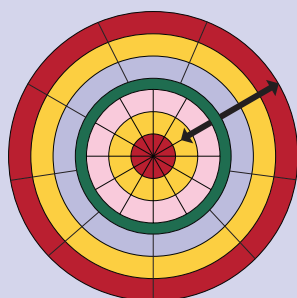
LAND CONVERSION

PLANETARY SPHERE



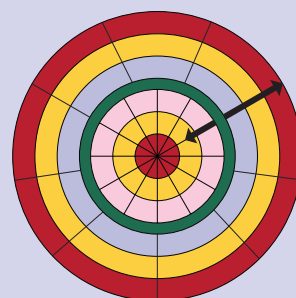
AIR POLLUTION

PLANETARY SPHERE



BIODIVERSITY LOSS

PLANETARY SPHERE



OZONE LAYER DEPLETION

Crisis cards (Planetary creeping)

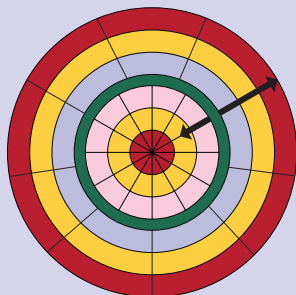
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|---|---|---|
| <p>PLANETARY SPHERE</p> <p>Domain: Chemical Pollution (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Chemical Build-Up</p> <hr/> <p>Scenario: Persistent pollutants found in fish and water supplies raise public health concerns in Nordica.</p> <p> CHEMICAL POLLUTION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Ocean Acidification (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Coastal Ecosystem Decline</p> <hr/> <p>Scenario: Warmer, more acidic waters shift marine life patterns, straining Nordica's fishing communities.</p> <p> OCEAN ACIDIFICATION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Climate Change (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Glacial Retreat</p> <hr/> <p>Scenario: Melting glaciers in Nordica's north alter ecosystems and raise spring flood risks downstream.</p> <p> CLIMATE CHANGE</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: Land Conversion (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Urban Sprawl</p> <hr/> <p>Scenario: Expanding suburbs gradually eat into farmland and forest around Nordica's major cities.</p> <p> LAND CONVERSION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Freshwater Withdrawal (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Groundwater Decline</p> <hr/> <p>Scenario: Over-extraction for agriculture and second homes depletes Nordica's aquifers over time.</p> <p> FRESHWATER WITHDRAWLS</p> | <p>PLANETARY SPHERE</p> <p>Domain: Nutrient Loading (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Eutrophication Spread</p> <hr/> <p>Scenario: Growing algae blooms reduce water quality in Nordica's inland lakes year after year.</p> <p> NUTRIENT LOADING</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: Ozone Layer Depletion (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Chemical Release Drift</p> <hr/> <p>Scenario: Slow accumulation of ozone-depleting substances from imports increases UV exposure across northern re</p> <p> OZONE LAYER DEPLETION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Biodiversity Loss (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Habitat Fragmentation</p> <hr/> <p>Scenario: New roads and holiday housing developments carve through forest corridors critical to native wildlife.</p> <p> BIODIVERSITY LOSS</p> | <p>PLANETARY SPHERE</p> <p>Domain: Air Pollution (PB)</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Chronic Air Quality Degradation</p> <hr/> <p>Scenario: Ongoing emissions from heating, transport, and industry reduce air quality in Nordica's urban centres.</p> <p> AIR POLLUTION</p> |

Crisis cards (Planetary creeping)

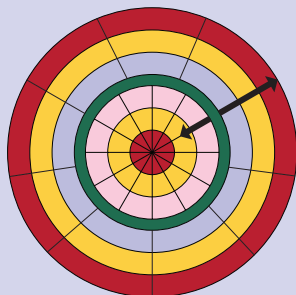
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

PLANETARY SPHERE



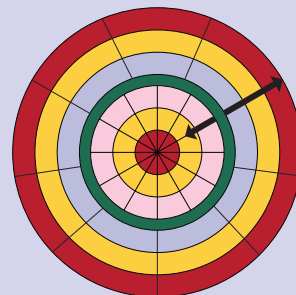
CLIMATE CHANGE

PLANETARY SPHERE



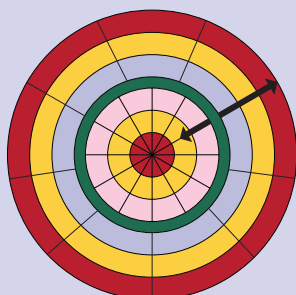
OCEAN ACIDIFICATION

PLANETARY SPHERE



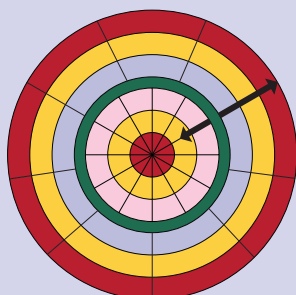
CHEMICAL POLLUTION

PLANETARY SPHERE



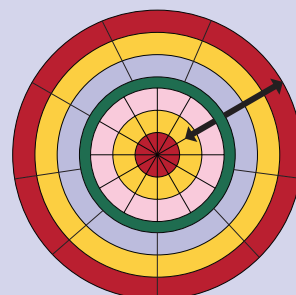
NUTRIENT LOADING

PLANETARY SPHERE



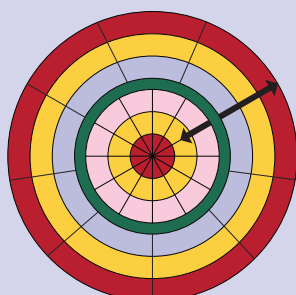
FRESHWATER WITHDRAWALS

PLANETARY SPHERE



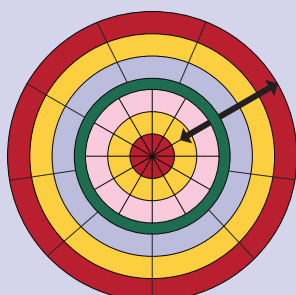
LAND CONVERSION

PLANETARY SPHERE



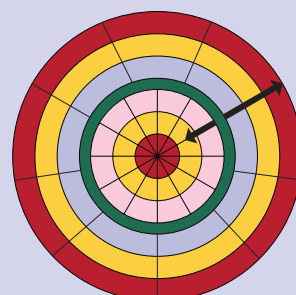
AIR POLLUTION

PLANETARY SPHERE



BIODIVERSITY LOSS

PLANETARY SPHERE



OZONE LAYER DEPLETION

Crisis cards (Planetary acute)

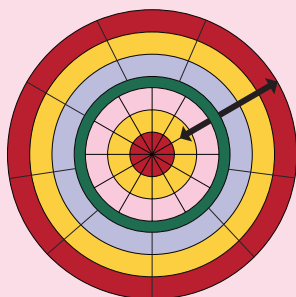
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|---|--|--|
| <p>PLANETARY SPHERE</p> <p>Domain: Chemical Pollution (PB)</p> <p>Type: Acute </p> <p>Crisis: Factory Leak</p> <p>Scenario: A chemical spill near a fjord pollutes drinking water and affects local wildlife.</p> <p> CHEMICAL POLLUTION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Ocean Acidification (PB)</p> <p>Type: Acute </p> <p>Crisis: Coral Reef Collapse</p> <p>Scenario: Acidification damages shellfish beds and marine biodiversity vital to Nordica's coastal fisheries.</p> <p> OCEAN ACIDIFICATION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Climate Change (PB)</p> <p>Type: Acute </p> <p>Crisis: Urban Heat Dome</p> <p>Scenario: Record-breaking summer heatwaves force hospital expansions and travel restrictions in Nordica's southern cities.</p> <p> CLIMATE CHANGE</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: Land Conversion (PB)</p> <p>Type: Acute </p> <p>Crisis: Illegal Deforestation Surge</p> <p>Scenario: Unpermitted logging in protected northern forests triggers public outcry in Nordica.</p> <p> LAND CONVERSION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Freshwater Withdrawal (PB)</p> <p>Type: Acute </p> <p>Crisis: Reservoir Depletion</p> <p>Scenario: Drought drains key reservoirs on Nordica's tourism-heavy islands, sparking emergency rationing.</p> <p> FRESHWATER WITHDRAWALS</p> | <p>PLANETARY SPHERE</p> <p>Domain: Nutrient Loading (PB)</p> <p>Type: Acute </p> <p>Crisis: River Dead Zone</p> <p>Scenario: Fertilizer runoff from agriculture causes a sudden fish die-off in a major Nordic lake.</p> <p> NUTRIENT LOADING</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: Ozone Layer Depletion (PB)</p> <p>Type: Acute </p> <p>Crisis: UV Spike</p> <p>Scenario: A polar vortex event thins the ozone above Nordica, prompting a national UV radiation alert.</p> <p> OZONE LAYER DEPLETION</p> | <p>PLANETARY SPHERE</p> <p>Domain: Biodiversity Loss (PB)</p> <p>Type: Acute </p> <p>Crisis: Species Extinction Event</p> <p>Scenario: Sudden collapse of pollinator populations disrupts farming in southern Nordica.</p> <p> BIODIVERSITY LOSS</p> | <p>PLANETARY SPHERE</p> <p>Domain: Air Pollution (PB)</p> <p>Type: Acute </p> <p>Crisis: Industrial Smog Crisis</p> <p>Scenario: A winter inversion traps smog from industrial zones over Nordica's main valley, causing a spike in respiratory emergencies.</p> <p> AIR POLLUTION</p> |

Crisis cards (Societal acute)

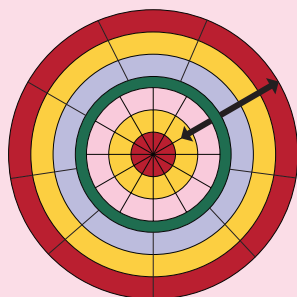
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!* If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

SOCIETAL SPHERE



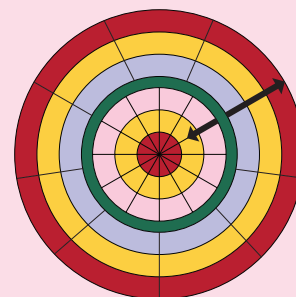
WATER

SOCIETAL SPHERE



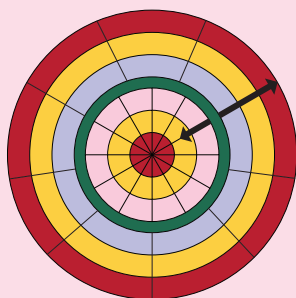
FOOD

SOCIETAL SPHERE



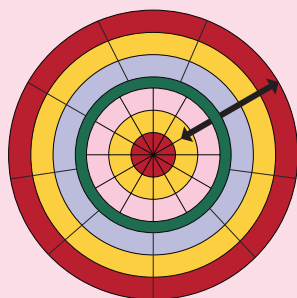
HEALTH

SOCIETAL SPHERE



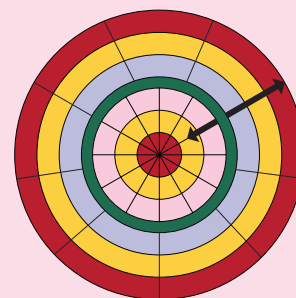
EDUCATION

SOCIETAL SPHERE



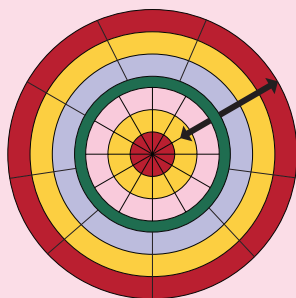
INCOME & WORK

SOCIETAL SPHERE



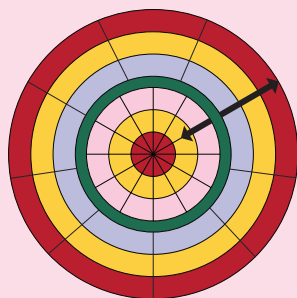
PEACE & JUSTICE

SOCIETAL SPHERE



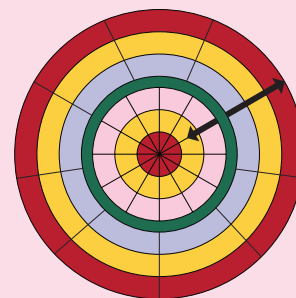
POLITICAL VOICE

SOCIETAL SPHERE



SOCIEAL EQUITY

SOCIETAL SPHERE



EQUITY

Crisis cards (Societal acute)

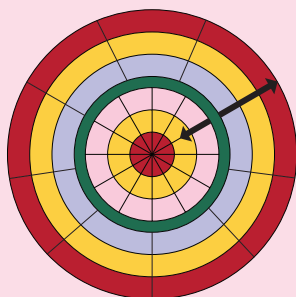
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!* If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|--|--|--|
| <p>SOCIETAL SPHERE</p> <p>Domain: Health</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Pandemic Resurgence</p> <hr/> <p>Scenario: A new virus strain spreads across Nordica before vaccine rollouts can adapt, overwhelming hospitals.</p> <p> HEALTH</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Food</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Crop Disease Outbreak</p> <hr/> <p>Scenario: A fungal disease wipes out Nordica's root vegetable harvest, triggering import dependency and price spikes.</p> <p> FOOD</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Water</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Urban Water Cutoff</p> <hr/> <p>Scenario: A chemical contamination shuts down the water system in one of Nordica's major cities for two weeks.</p> <p> WATER</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: Peace & Justice</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Civil Unrest Flashpoint</p> <hr/> <p>Scenario: A controversial police incident during a festival triggers protests across Nordica's cities.</p> <p> PEACE & JUSTICE</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Income & Work</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Economic Shockwave</p> <hr/> <p>Scenario: A major IT company relocates, triggering sudden unemployment spikes in one of Nordica's urban hubs.</p> <p> INCOME & WORK</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Education</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Mass School Closures</p> <hr/> <p>Scenario: A national strike shuts down public education for several weeks across Nordica.</p> <p> EDUCATION</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: Equity</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Fuel Tax Uprising</p> <hr/> <p>Scenario: A proposed energy tax reform disproportionately impacts rural areas, prompting widespread blockades.</p> <p> EQUITY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Social Equity</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Housing Displacement Riot</p> <hr/> <p>Scenario: Emergency evictions in a rapidly gentrifying district spark violent demonstrations.</p> <p> SOCIEAL EQUITY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Political Voice</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Participation Erosion</p> <hr/> <p>Scenario: Voter turnout continues to decline in Nordica, particularly among youth and rural populations.</p> <p> POLITICAL VOICE</p> |

Crisis cards (Societal acute)

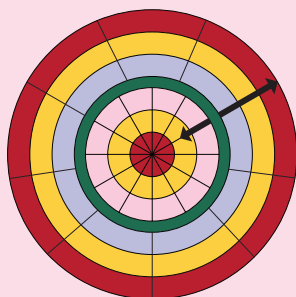
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

SOCIETAL SPHERE



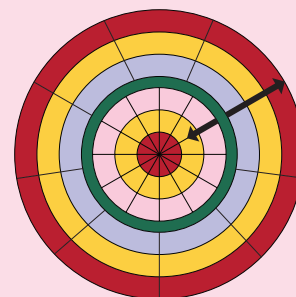
WATER

SOCIETAL SPHERE



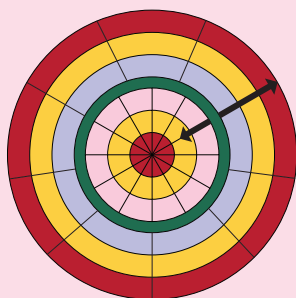
FOOD

SOCIETAL SPHERE



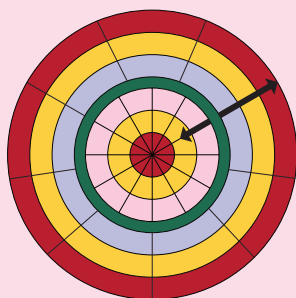
HEALTH

SOCIETAL SPHERE



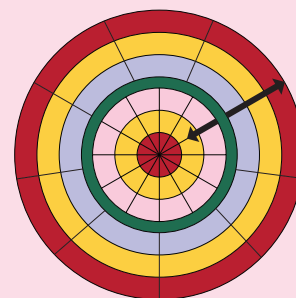
EDUCATION

SOCIETAL SPHERE



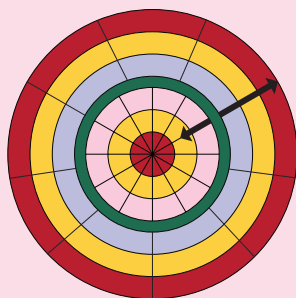
INCOME & WORK

SOCIETAL SPHERE



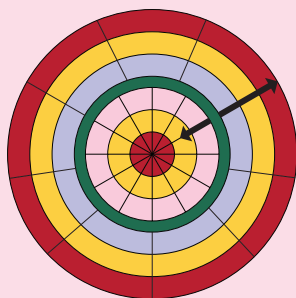
PEACE & JUSTICE

SOCIETAL SPHERE



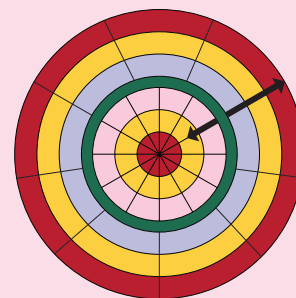
POLITICAL VOICE

SOCIETAL SPHERE



SOCIEAL EQUITY

SOCIETAL SPHERE



EQUITY

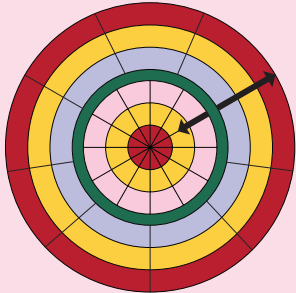
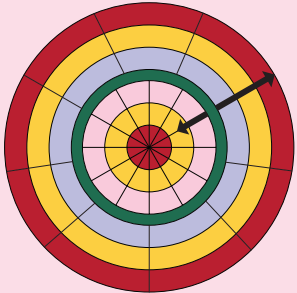
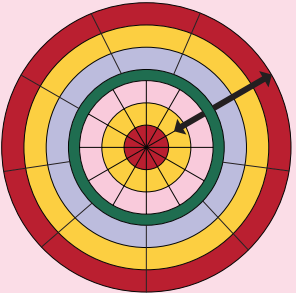
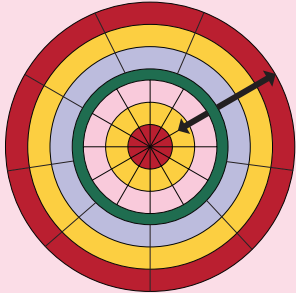
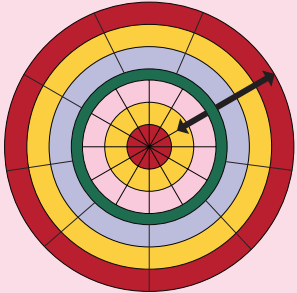
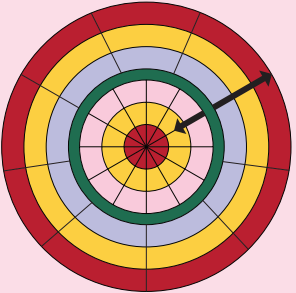
Crisis cards (Societal creeping)

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!*
If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|--|--|--|
| <p>SOCIETAL SPHERE</p> <p>Domain: Health</p> <p>Type: Creeping </p> <p>Crisis: Chronic Disease Surge</p> <p>Scenario: Rates of diabetes and mental health issues steadily rise, straining Nordica's healthcare system.</p> <p> HEALTH</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Food</p> <p>Type: Creeping </p> <p>Crisis: Soil Nutrient Loss</p> <p>Scenario: Continuous monoculture farming in key regions reduces topsoil quality and yield in Nordica over time.</p> <p> FOOD</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Water</p> <p>Type: Creeping </p> <p>Crisis: Ageing Infrastructure Loss</p> <p>Scenario: Underfunded water infrastructure leads to persistent leaks and declining water quality in Nordica's towns.</p> <p> WATER</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: Peace & Justice</p> <p>Type: Creeping </p> <p>Crisis: Discrimination Drift</p> <p>Scenario: Subtle policy gaps and systemic exclusion deepen inequalities for minority communities in Nordica.</p> <p> PEACE & JUSTICE</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Income & Work</p> <p>Type: Creeping </p> <p>Crisis: Wage Stagnation</p> <p>Scenario: Despite economic growth, real wages for many Nordicans fail to keep up with rising living costs.</p> <p> INCOME & WORK</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Education</p> <p>Type: Creeping </p> <p>Crisis: Learning Gap Expansion</p> <p>Scenario: Children in rural Nordica fall further behind due to limited digital access and teacher shortages.</p> <p> EDUCATION</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: Equity</p> <p>Type: Creeping </p> <p>Crisis: Generational Wealth Gap</p> <p>Scenario: Young Nordicans struggle to access housing or inherit land, widening the gap with older generations.</p> <p> EQUITY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Social Equity</p> <p>Type: Creeping </p> <p>Crisis: Segregation Reinforcement</p> <p>Scenario: School and housing policies reinforce divides between high- and low-income communities in Nordica.</p> <p> SOCIEAL EQUITY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Political Voice</p> <p>Type: Creeping </p> <p>Crisis: Disinformation Election Crisis</p> <p>Scenario: Widespread misinformation ahead of local elections undermines public trust in Nordica's democratic institutions.</p> <p> POLITICAL VOICE</p> |

Crisis cards (Societal acute)

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!* If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|---|--|--|
| <p>SOCIETAL SPHERE</p>  <p>HOUSING</p> | <p>SOCIETAL SPHERE</p>  <p>NETWORKS</p> | <p>SOCIETAL SPHERE</p>  <p>ENERGY</p> |
| <p>SOCIETAL SPHERE</p>  <p>HOUSING</p> | <p>SOCIETAL SPHERE</p>  <p>NETWORKS</p> | <p>SOCIETAL SPHERE</p>  <p>ENERGY</p> |

Decade tokens

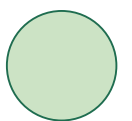
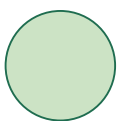


Crisis cards (Societal mixed)

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up!* If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|--|---|--|
| <p>SOCIETAL SPHERE</p> <p>Domain: Energy</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: National Grid Failure</p> <hr/> <p>Scenario: An extreme winter storm brings down large sections of Nordica's electric grid.</p> <p> ENERGY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Networks</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Telecom Blackout</p> <hr/> <p>Scenario: A cyberattack disrupts Nordica's digital infrastructure, cutting off public services and communications.</p> <p> NETWORKS</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Housing</p> <hr/> <p>Type: Acute </p> <hr/> <p>Crisis: Winter Homelessness Spike</p> <hr/> <p>Scenario: A cold snap hits Nordica during a housing shortage, overwhelming emergency shelters.</p> <p> HOUSING</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: Energy</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Fossil Lock-in</p> <hr/> <p>Scenario: Delays in green transition leave Nordica dependent on imported fossil fuels and exposed to price volatility.</p> <p> ENERGY</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Networks</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Infrastructure Underinvestment</p> <hr/> <p>Scenario: Years of postponed upgrades lead to growing digital divide between urban and rural Nordicans.</p> <p> NETWORKS</p> | <p>SOCIETAL SPHERE</p> <p>Domain: Housing</p> <hr/> <p>Type: Creeping </p> <hr/> <p>Crisis: Rental Market Pressure</p> <hr/> <p>Scenario: Rising demand and limited construction drive up housing costs across Nordica's cities and towns.</p> <p> HOUSING</p> |

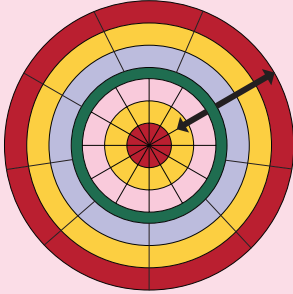
Decade tokens



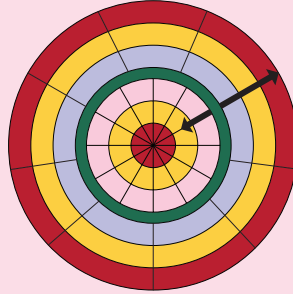
Fill in yourself

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up* once you fill those out! If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

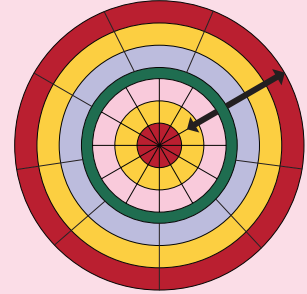
SOCIETAL SPHERE



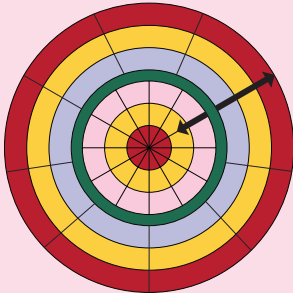
SOCIETAL SPHERE



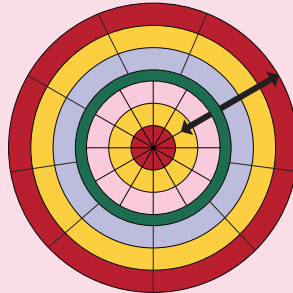
SOCIETAL SPHERE



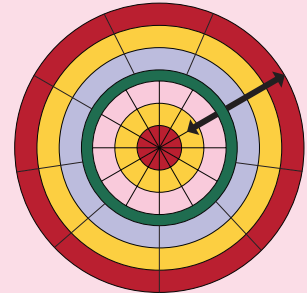
SOCIETAL SPHERE



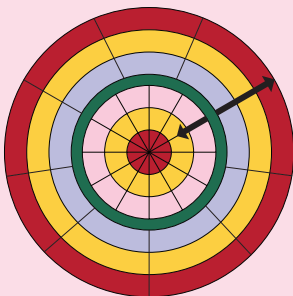
SOCIETAL SPHERE



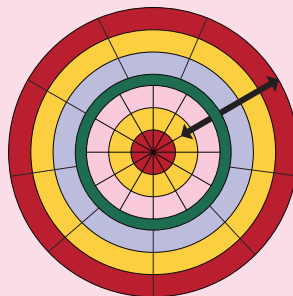
SOCIETAL SPHERE



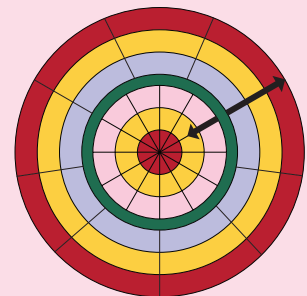
SOCIETAL SPHERE



SOCIETAL SPHERE












SOCIETAL SPHERE



Fill in yourself

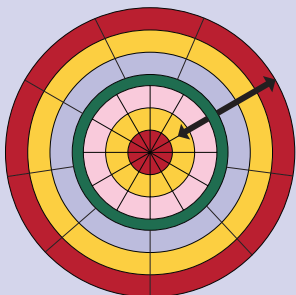
Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up* once you fill those out! If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|--|--|--|
| <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |
| <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>SOCIETAL SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |

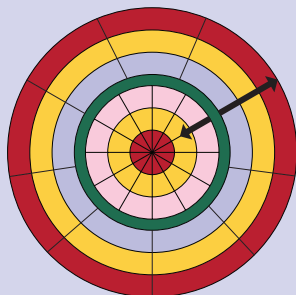
Fill in yourself

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up* once you fill those out! If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

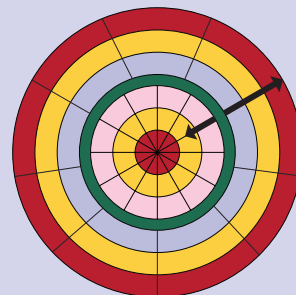
PLANETARY SPHERE



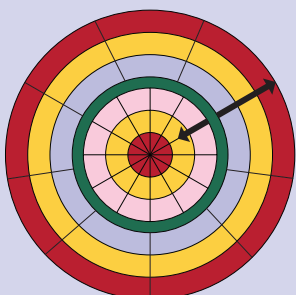
PLANETARY SPHERE



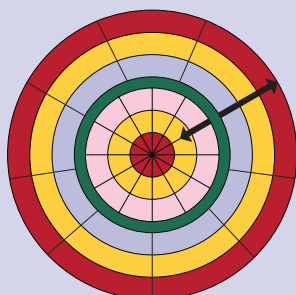
PLANETARY SPHERE



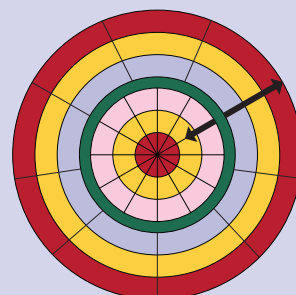
PLANETARY SPHERE



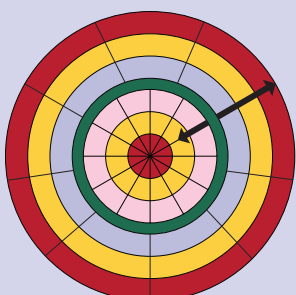
PLANETARY SPHERE



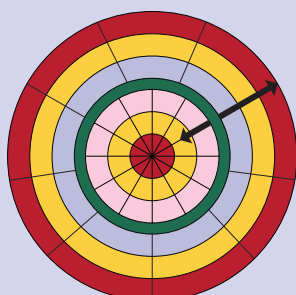
PLANETARY SPHERE



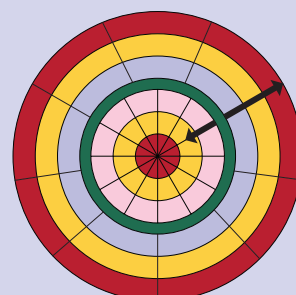
PLANETARY SPHERE



PLANETARY SPHERE












PLANETARY SPHERE



Fill in yourself

Instructions: Print double sided. Make sure the *title* on the front and on the backside of the card *match up* once you fill those out! If you only have a printer that prints one sided, then you can either flip the paper yourself, or print the two pages on separate sheets and glue the two sides together, again matching up the titles on the front and the back side of the cards.

| | | |
|---|---|---|
| <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Creeping </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |
| <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> | <p>PLANETARY SPHERE</p> <p>Domain: _____</p> <p>Type: Acute </p> <p>Crisis: _____</p> <p>Scenario: _____</p> <p>Societal foundation: _____</p> |

5. Background on sustainability and resilience in crisis management

This section presents the concepts central to the Nordica Crisis Management Game, which integrates sustainability and resilience perspectives into planning and management.

The concepts explored in this game include visions and goals (sustainability & resilience) actionable strategies (prevention & preparedness), crises on different time scales (creeping and acute crises), and trade-offs and synergies from multiple crises (poly-crisis and perma-crisis).

The constant changes and unpredictable consequences of extreme events imply that we as humans on this planet do not only need predictions on migration patterns and sea level rises in different places. We also need discussions on desirable societal functions and what aspects of societies we want to sustain in times of crises (Head, 2016). This game is developed as a tool for such discussions.

Sustainability and resilience through a crisis management lens

Crisis management is often associated with short-term response: coordination under pressure, managing cascading impacts, and restoring essential services. But many of today's crises are shaped by conditions brought on from a larger global culture of neglect: global warming, ecosystem degradation, societal inequality, fragile supply chains, and underinvestment in critical systems. In this game we focus on proactive crisis management efforts by combining two perspectives:

- **Sustainability**, which focuses on long-term development that is socially fair and ecologically safe. This means reducing the underlying drivers of risk of social and environmental degradation over time (Raworth, 2017; UN General Assembly, 2015)
- **Resilience**, which focuses on a community or societies capacity to withstand disruption, recover, adapt and transform from effects of hazards (UNDRR, 2017)

Taken together, these perspectives help avoid a common trap: becoming very good at coping with emergencies while the root causes of future crises continue to grow. A resilience lens strengthens coping capacity; a sustainability lens strengthens long-term risk reduction and the ability to sustain wellbeing across generations.

Prevention and preparedness: translating sustainability and resilience into actions

In the Nordica Crisis Management Game, sustainability and resilience are made actionable through two complementary action types: prevention and preparedness. These steps are commonly included as proactive efforts in disaster and crisis management cycles (Bullock et al., 2013). While these concepts sometimes overlap in real-world practice, they are separated in the game to make trade-offs and synergies easier to discuss across actors and sectors.

- **Prevention** (primarily sustainability-oriented): long-term actions that reduce the likelihood and structural drivers of crises or reduce how widely it spreads.
- **Preparedness** (primarily resilience-oriented): actions that reduce impact severity when disruptions occur and improve the capacity to respond, recover, and learn.

Why it matters for sustainability and resilience: Prevention and preparedness overlap in real life, but the distinction helps groups see that strong prevention can reduce the likelihood or severity of crises over time, while strong preparedness reduces impacts when crises occur and strengthens adaptive capacity.

Doughnut Economics: a shared frame for sustainability and resilience

Doughnut Economics is a visual and conceptual framework developed to reframe the central challenge of the 21st century: meeting the needs of all people within the means of the living planet (Raworth, 2017). It is often introduced as a "compass" or "monitor" for progress, because it makes visible both social shortfalls and planetary overshoot.

At its core, the Doughnut has two boundaries:

- **A social foundation:** the minimum social standards below which people fall into deprivation.
- **An ecological ceiling:** the biophysical limits beyond which human activity risks destabilising Earth's life-support systems.

Between these lies the safe and just space in which societies can thrive (Raworth, 2017). The social foundation is commonly derived from globally agreed social priorities, such as those expressed in the Sustainable Development Goals (UN General Assembly, 2015). The ecological ceiling draws on Earth-system science, particularly the planetary boundaries framework (Rockström et al., 2009). For the development of this game, the doughnut economics model has been adapted and combined with other visual elements.

Creeping and acute crises: crisis management in the long-and short term

Crises differ not only in what they affect (e.g. which planetary boundary or societal foundation), but also in how they unfold over time. This matters for integrating sustainability and resilience in crisis management. In simple terms, creeping crises are slow-building and often linked to long-term sustainability challenges (risk drivers that accumulate) (Boin et al., 2020). Acute crises, on the other hand, escalate quickly and test short-term resilience (response capacity under pressure). In practice, the two are connected: creeping crises can suddenly tip into acute disruptions, and acute shocks often reveal underlying vulnerabilities that require longer-term prevention to address.

- **Creeping crisis:** slow-building threats that evolve over time and space, often with warning signs, but that may receive insufficient attention or action until they escalate.
- **Acute crisis:** sudden-onset events (or rapid escalations) that create urgent disruption, high uncertainty, and time pressure for decision-making.

Why it matters for sustainability and resilience: creeping crises highlight the value of prevention (reducing risk drivers), while acute crises highlight the value of preparedness and learning (coping, recovering, adapting).

Polycrisis and permacrisis: handling multiple crises at once

Many real-world crises do not occur in isolation. Instead, societies face clusters of crises that interact, sometimes producing compounding effects that overwhelm routines, resources, and political attention. This matters for linking sustainability and resilience: sustainability-oriented prevention reduces the structural drivers that make systems fragile, while resilience-oriented preparedness improves the capacity to cope when multiple disruptions arrive close together, referred to as a polycrisis (World Economic Forum, 2023).

- **Polycrisis:** multiple, interacting crises with compounding effects, where the overall impact can exceed the sum of each part.
- **Permacrisis:** a sense of living through an extended period of instability and insecurity, where crises feel continuous.

Why it matters for sustainability and resilience: poly/permacrisis dynamics increase the need for integrated strategies that protect societal foundations while avoiding long-term overshoot of planetary boundaries.

References

- Alvarez, J., & Djaouti, D. (2011). An introduction to Serious Game Definitions and Concepts. *In Proceedings of the Serious Games & Simulation for Risks Management Workshop*, 11–15.
- Boin, A., Ekengren, M., & Rhinard, M. (2020). Hiding in Plain Sight: Conceptualizing the Creeping Crisis. *Risk, Hazards & Crisis in Public Policy*, 11(2), 116–138. <https://doi.org/10.1002/rhc3.12193>
- Bullock, J. A., Haddow, G. D., & Coppola, D. P. (2013). Mitigation, Prevention, and Preparedness. *Introduction to Homeland Security*, 435–494. <https://doi.org/10.1016/B978-0-12-415802-3.00010-5>
- Head, L. (2016). *Hope and Grief in the Anthropocene: Re-conceptualising human–nature relations*. Routledge. <https://doi.org/10.4324/9781315739335>
- Raworth, K. (2017). *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. Chelsea Green Publishing.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., ... Foley, J. (2009). Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society*, 14(2). <https://www.jstor.org/stable/26268316>
- UN General Assembly. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development* | Department of Economic and Social Affairs. <https://sdgs.un.org/2030agenda>
- UNDRR. (2017). *The Sendai Framework Terminology on Disaster Risk Reduction. 'Resilience'*. <https://www.undrr.org/terminology/resilience>
- World Economic Forum. (2023). *Global Risks Report 2023*. World Economic Forum. <https://www.weforum.org/publications/global-risks-report-2023/digest/>