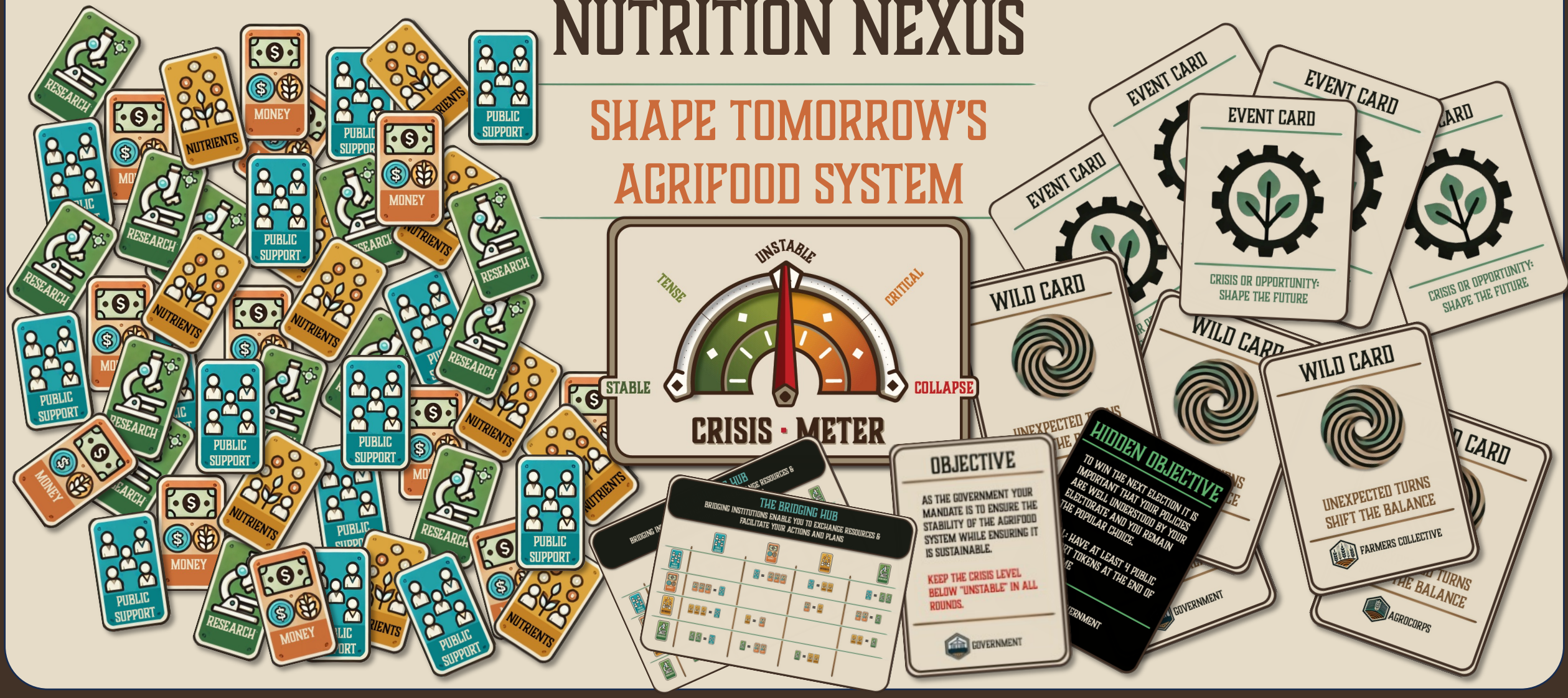
Food and Agriculture Organization of the United Nations

This **Futures Simulation game** is brought to you by United Nations Development Programme in collaboration with the Food and Agriculture Organization of the United Nations.

UNDP

NUTRITION NEXUS

SHAPE TOMORROW'S AGRIFOOD SYSTEM



OVERVIEW & AGENDA

AGRIFOOD SYSTEMS & FUTURES THINKING

- Context setting
- Why should we use Futures thinking in solving the problems of the agrifood system?
- The utility of Futures Simulation games

GAME SETUP & EXPERIENCE

- Design principles of the game
- Target audience
- Introduction Trailer
- Game features and mechanics

LEARNING OUTCOMES & CALL TO ACTION

- Player experiences of the game thus far
- When, how and with whom to play the game
- Questions

THE AGRIFOOD SYSTEM HAS MANY CHALLENGES

- The modern agrifood system produces more than a third of global greenhouse gases.
- It is projected to leave almost 600 million people chronically undernourished by 2030.
- Transforming the global food system could unlock some $10 trillion in value and deliver significant health and environmental benefits and cut emissions by a third by 2030.

Meanwhile, the combination of changing values and technological innovation is powering new solutions that offer multiple pathways to transform our consumption ethos and systems of production.

THE NEED FOR A FUTURES-ORIENTED APPROACH

- The lessons drawn from this FAO report's foresight exercise underscore the pivotal role of governance, partnerships, ethical considerations, and stakeholder engagement in shaping a desirable future.

- The more disruptive the technology, the greater the uncertainty. Hence, to fully leverage disruptive technologies, ex-ante risk-benefit assessments are recommended.

- A **systemic, co-creative, and anticipatory** approach is advocated to decrease the time lag between research and investment phases and ensure that technologies remain relevant when applied.

THESE FORM THE DESIGN PRINCIPLES OF 'NUTRITION NEXUS'

SYSTEMS THINKING

MULTISTAKEHOLDER ENGAGEMENT

COLLABORATION OVER COMPETITION

BALANCING RISKS WITH BENEFITS

FUTURES-ORIENTED EXPLORATION

BUT FIRST, A NOTE ON FUTURES SIMULATION GAMES

Games are uniquely conducive to systems thinking.

[…] Game processes that capture the essence of real-world systems allow for safe and rich explorations of how those systems could be changed.

-Pablo Suarez
Rethinking The Future Of Governance Through Games
2017

FUTURES SIMULATION GAMES IN DIFFERENT CONTEXTS

MILITARY

NATO's Allied Command Transformation Develops Audacious Wargaming Capability

December 5, 2023

©NATO

NATO's Audacious Wargaming Capability presents scenario-based models and provides a safe-to-fail environment for decision-makers to explore threats and practice decision-making, explore risks, and evaluate options for actions to support NATO's Deterrence and Defence posture.

DEVELOPMENT

Paying for Predictions

"Linking Early Warning to Early Action"
#110

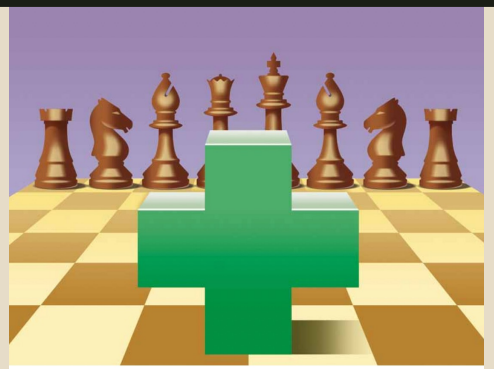
Climate Centre

©Red Cross Crescent Climate Centre

"Paying for Predictions" led to the creation of "Forecast-based Financing" where science and finance work in alliance to act faster, averting disaster. In a range of projects that engaged the Red Cross Red Crescent Climate Centre, the World Bank, Oxfam, the UN WFP, NASA and many other partners, breakthroughs in development work have emerged through gameplay.

HEALTHCARE

©McKinsey



How to use war games as a strategic tool in health care

For healthcare organizations facing uncertainty, war-games are used as an effective way to practice strategic decision-making in a risk free environment- before choices have to be made in the real world- according to the McKinsey Health Systems and Service Practice.

FUTURES SIMULATION GAMES IN DIFFERENT CONTEXTS

BUSINESS

©Deloitte

By involving its participants actively in a dynamic strategic simulation, business wargaming has the potential to challenge mental models, foster learning and develop the kind of foresight that is essential to success in an increasingly dynamic and complex business environment.

GOVERNANCE

©Ecopolicy

Politics, production, environmental stress, quality of life, education , and population are important sectors of human life. In the game , they are all interlinked in such a way that each decision results in a chain of effects and repercussions, just like in real life. Players can 'be in power' in an industrial nation and two other countries (a developing and a threshold nation).

SOCIAL CHANGE

©Tiltfactor

Games have been used to battle misinformation and encourage the use of vaccines, spread awareness around handwashing in Rwanda and reduce gender-bias.

NUTRITION NEXUS: WHAT IS IT FOR?

PRIMARY OBJECTIVES OF THE NUTRITION NEXUS EXPERIENCE

Foster Foresight: The game sharpens foresight by encouraging players to anticipate future challenges and explore innovative solutions for long-term resilience.

Promote Cross-Sector Collaboration: Successful game outcomes require collaboration, negotiation, and coalition-building among different stakeholder groups.

Highlight Trade-offs in Decision-Making: Players must think critically about the trade-offs between short-term gains and long-term sustainability -simulating real-world complexities.

NUTRITION NEXUS: WHO IS IT FOR?

MULTI-SECTORAL STAKEHOLDERS

Developed for the Hamburg Sustainability Conference, the game is designed for a multi-sectoral audience—policy-makers, industry leaders, researchers, NGOs, and others involved in shaping the future of global food systems.

INTRA-SECTORAL PLAYERS

The role-based interaction in the game fosters empathy and systems thinking, allowing players to appreciate the complexities of the ecosystem. Teams within organizations benefit from this immersive experience, as it deepens strategic understanding of their partners, competitors, and other players in the field.

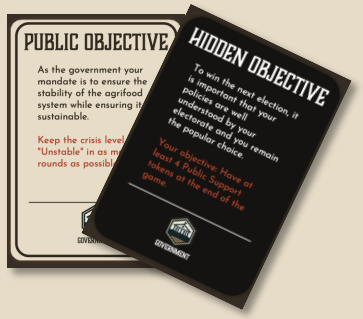
ACADEMIC INSTITUTIONS AND STUDENTS

The game offers an engaging and immersive learning experience that allows students to understand real-world complexities and explore possible future scenarios in a hands-on way.

NUTRITION NEXUS: CORE ELEMENTS

PLAYERS

Each player draws a player card to find the role they represent in the agrifood system—government officials, agro-industrial corporations, research institutions, smallholder farmers' collectives, and consumer advocates.



OBJECTIVES

Players receive both a public objective, visible to all, and a hidden personal goal. These objectives guide players' strategies, blending collaboration with individual ambition to influence the game's outcome.

EVENT CARDS

Event cards introduce real-world inspired crises or opportunities, challenging players to resolve critical issues that affect the agrifood system. From regenerative agriculture to novel proteins, the event card requires collaborative resource contributions to capitalize on opportunities or mitigate negative impacts on the Crisis Meter.

WILD CARDS

Unpredictable twists, wild cards introduce sudden changes like resource shortages or new crises. These cards shift the balance of power and force players to adapt their strategies quickly.

RESOURCES

The game features four types of resources—Money, Research, Nutrients, and Public Support—essential for resolving events, forming alliances, and advancing personal objectives. Players must strategically allocate resources to influence the game.

THE BRIDGING HUB

The Bridging Hub serves as a platform for resource exchange, governed by bridging institutions. It facilitates collaboration by allowing players to trade resources at fixed exchange rates, supporting mutual goals.

CRISIS METER

The Crisis Meter tracks the overall stability of the agrifood system, ranging from "Stable" to "Collapse." The meter moves based on how well players resolve events, influencing the game's duration and end.

NUTRITION NEXUS: GAME MECHANICS

THE EVENT PHASE

Each round begins with a player drawing an Event Card, revealing a crisis or opportunity that impacts the agrifood system. Players have **5 minutes** to negotiate and pool resources to resolve the event and prevent negative effects.

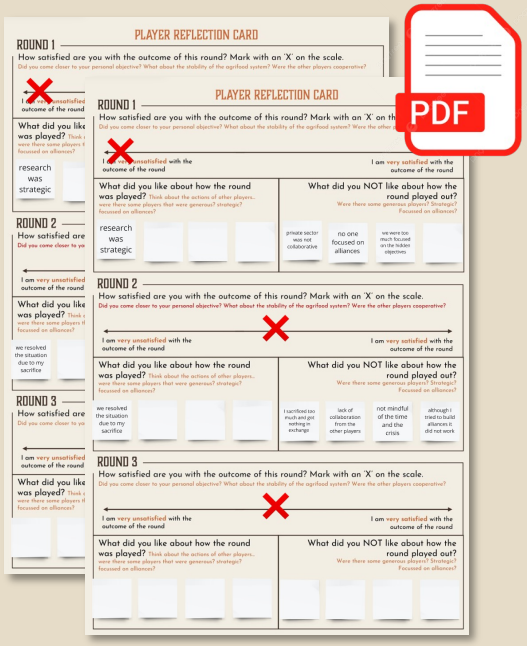
THE ACTION PHASE

Players collaborate by offering resources to resolve the drawn event. If consensus isn't reached within 5 minutes, a Wild Card is introduced, adding complexity and forcing players to adapt their strategies for the remaining **5 minutes** of negotiation time.

THE RESOLUTION PHASE

After all players have acted, the group's collective progress is evaluated. The Crisis Meter is updated based on the success or failure of resolving the event, determining the overall stability of the system.

NUTRITION NEXUS: PLAYER EXPERIENCE



SENSE OF URGENCY

Players report feeling a sense of urgency, the ticking clock forces the player leading the negotiation to urge others to reach a consensus.

NOVEL COLLABORATION

Players find unique ways to collaborate, by trading resources and being altruistic but also by being transparent and disclosing their 'hidden objective' or their available resources to find a win-win solution.

THE PAIN OF FAILURE

Players report feeling a sense of 'shame' when they fail to resolve crises – even if they come closer to their hidden objective, highlighting the need for prioritising the greater good.

REAL-WORLD LIKENESS

Irrespective of the event card drawn, players report that negotiations in the game are challenging (especially when prioritizing hidden objectives) simulating real-world environments.

miro

NUTRITION NEXUS: WHEN AND HOW TO USE IT

WORKSHOP

©Unsplash

- Trigger futures thinking.
- A dynamic way to experience real-world signals of change today as opportunities and challenges in the future.
- Group discussions about key takeaways can uncover collaborative approaches that can be applied to real-life decision-making.

MEETINGS WITH PARTNERS

©Unsplash

- **Think** critically about future uncertainties, resource allocation, and crisis management.
- The scenarios played out during the game help to **identify gaps in strategies, explore new partnerships, and develop resilient plans**.

EDUCATION

©Unsplash

- An interactive way to engage students and professionals.
- Allows for exploration of the complexity of agrifood systems
- Serves as a tool for critical problem solving, managing limited resources, negotiating and developing a deeper understanding of global food system dynamics.

NUTRITION NEXUS: ACKNOWLEDGEMENTS

This game is the result of the collective effort, expertise, and creativity of numerous individuals who contributed to its design, development, and refinement. We would like to express our sincere gratitude to everyone who played a role in bringing this project to life.

UNDP

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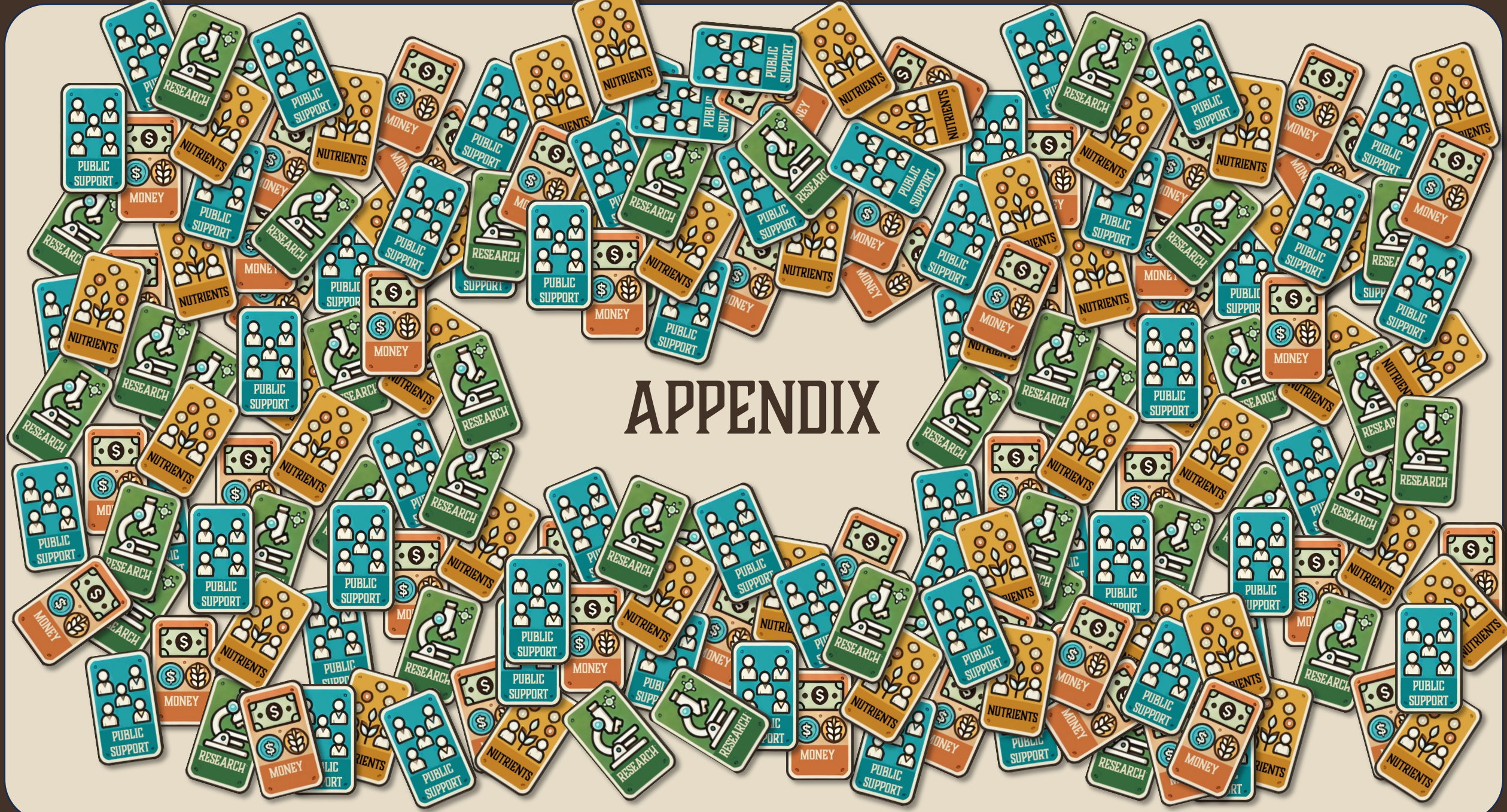
TESTERS & FEEDBACK

We are grateful to our game testers and participants who provided insights, feedback, and suggestions during multiple playtesting rounds.

Vanessa Howe-Jones (UNDP), Claudia Rangel (UNDP), Muzaffar Tilavov (UNDP), Soha Rashed (UNDP), Bronwyn Williams (UNDP), Cristiano Consolini (FAO), Jimena Gomez (FAO), Yuping Li (FAO)

ChatGPT

A special note of appreciation to ChatGPT, which served as a creative assistant in the game design process. While the platform contributed to idea generation and narrative development, the final design and structure were shaped by extensive human input, editing, and thoughtful collaboration.


APPENDIX

DESIGN PRINCIPLES IN ACTION

FUTURES-ORIENTED EXPLORATION

The benefits of the opportunity

The challenges from other stakeholders, from a financial and logistical view

SYSTEMS THINKING

BALANCING RISKS WITH BENEFITS

Regenerative Agriculture Breakthrough

Description

In 2040, regenerative agriculture practices demonstrate remarkable success, with large-scale studies proving a significant increase in soil health, carbon sequestration, water retention, and biodiversity restoration.

Farmers adopting these methods report up to a 30% increase in crop resilience during droughts. The regenerative techniques also capture substantial amounts of atmospheric carbon, mitigating climate change.

However, resistance remains strong among large agribusinesses, and scaling up will require overcoming financial and logistical barriers.

If you are successful in scaling these practicies bby collaborating towards a win-win solution, you increase food security through resilient crops, and improved soil health.

If you fail to scale the success of regenerative agriculture, industrial farming practices continue depleting soil and resources, causing increased public frustration over inaction.

Resources needed to resolve the crisis

To provide farmers with resources to transition to regenerative farming, which may initially lower yields

To develop scalable models for various agricultural regions

To build widespread awareness and gain support from farmers who are hesitant to adopt these methods

EFFECT

IF RESOLVED

Decrease the crisis level by 1. Every player gains 1 Nutrient token.

IF UNRESOLVED

Increase the crisis level by 1. Every player loses 1 Public Support token if available.

Focus on smallholder farmers and regional inclusion

The need to bring people along

All stakeholders win and lose together

MULTISTAKEHOLDER ENGAGEMENT

COLLABORATION OVER COMPETITION

DESIGN PRINCIPLES IN ACTION

FUTURES-ORIENTED EXPLORATION

A well known risk materializes in the future

A potential impact of the risk on other parts of the system

SYSTEMS THINKING

BALANCING RISKS WITH BENEFITS

Regenerative Agriculture Breakthrough

The financial burden and labour intensity of regenerative practices overwhelms small and medium-sized farms.

EFFECT

This leads to widespread frustration and abandonment of sustainable practices for a quick, but unsustainable, gain in productivity.

The cost of resolving the event increases by:

1 Public Support Token

1 Money Token

Focus on the impact of the solution on small-holder farmers

MULTISTAKEHOLDER ENGAGEMENT

The need to bring people along

The system needs to collaboratively 'pay the price'

COLLABORATION OVER COMPETITION


THANK YOU
PUBLIC SUPPORT
RESEARCH
MONEY
NUTRIENTS
UNSTABLE
TENSE
CRITICAL
STABLE
COLLAPSE
CRISIS · METER
EVENT CARD
WILD CARD
UNEXPECTED TURNS SHIFT THE BALANCE
THE BRIDGING HUB
BRIDGING INSTITUTIONS ENABLE YOU TO EXCHANGE RESOURCES & FACILITATE YOUR ACTIONS AND PLANS
PUBLIC OBJECTIVE
As the government your mandate is to ensure the stability of the agrifood system while ensuring it is sustainable.
GOVERNMENT
HIDDEN OBJECTIVE
To win the next election, it is important that your policies are well understood by your electorate and you remain the popular choice.
Your objective: Have at least 4 Public Support tokens at the end of the game.
GOVERNMENT